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TRANSACTIONS

—OF—

THE TWENTY-SEVENTH ANNUAL MEETING

—OF—

The Medical Society

—OF THE—

STATE OF NORTH CAROLINA,

—HELD AT—

WILMINGTON, N. C., 11th MAY, 1880.

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OF THE STATE OF NORTH CAROLINA
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MINUTES

—OF THE—

TWENTY-SEVENTH ANNUAL MEETING

—OF THE—

MEDICAL SOCIETY OF NORTH CAROLINA.

FIRST DAY—MORNING SESSION.

WILMINGTON, N. C., May 11th, 1880.

The Medical Society of the State of North Carolina met in this city at the Opera House at 11 o'clock this morning. Dr. J. F. Shaffner, of Salem, President, and Dr. L. Julien Picot, Secretary.

The meeting was opened with prayer by Rev. C. M. Payne, M. D.

Dr. W. J. H. Bellamy delivered the address of welcome on the part of the citizens and of the New Hanover County Medical Association.

Mr. President and Gentlemen of the Medical Society of the State of North Carolina:

It is indeed a pleasant duty which has been assigned me by the New Hanover County Medical Association to greet you, and to extend to you a hearty welcome to the hospitality of the city of Wilmington. We esteem it a great honor you confer upon us, in holding this your Twenty-Seventh Annual Convention in our midst, and we assure you that no efforts will be spared, in providing for your comfort, your pleasure and your happiness. It has been just ten years since you met in annual session in this city, and many there were whose warm grasp of the hand then impressed us, whose cheery faces, genial smiles and familiar voices then encouraged us, who now lie in the silent tomb. In no decade in the history of our country have so many changes been wrought in our political, financial and social condition. Wars and rumors of wars in Europe, political dissensions and financial panics in America, one would think, had well-nigh distracted the public mind—but during this period a new impetus has been given to the arts and sciences, and

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many new and valuable discoveries and inventions have been made. While more rapid strides may have been made in the sister sciences, medical science has had its votaries, whose labors of love and indefatigable effort have been crowned with success. And their legacies bequeathed to posterity for all time to come, will be monuments more lasting than brass—for as has been said and well expressed by a distinguished divine in our midst. 'He who deserves a monument needs none to perpetuate his memory.' You have come here as conservators of the public health, in the interest of science, and for the alleviation of human suffering—not merely for a brief respite from the daily round of professional toil, to rekindle social feelings, to renew old acquaintances or to strengthen the ties of friendship, but to join in the common work by which medicine is to become more perfect as an art, more exact as a science and more honorable as a profession. (Applause.) So then all join heads, hearts and hands together to the work before you, and when your labors are over, or a respite is afforded then I trust with propitious weather we may all enjoy together a ride upon the placid waters of the Cape Fear, a river, though not known in song as the 'Swannanoa nymph of beauty,' yet upon its shore, and on its bosom have transpired events, the history of which we all cherish and love to relate. (Applause.)

And now Mr. President and gentlemen, in conclusion, I again in the name of the profession and of the citizens of Wilmington extend to you a most cordial welcome.

Dr. W. C. Murphy moved that the Rev. C. M. Payne, M. D., be invited to a seat in the house during the session. Carried.

The Secretary, Dr. L. Julian Picöt, of Littleton, then called the roll of members, and the following were reported present:

Drs. N. J. Pittman, Tarborough; S. S. Satchwell, Rocky Point; H. W. Faison, Faison; Alman Holmes, C. T. Murphy, Clinton; Hugh Kelly, Statesville; J. J. Summerell, Salisbury; George A. Foote, Warrenton; Eugene Grissom, Raleigh; R. L. Payne, Lexington; F. M. Rountree, Snow Hill; J. F. Long, Washington; Thomas F. Wood, Wilmington; G. L. Kirby, Goldsborough; J. F. Shaffner, Salem; R. I. Hicks, Williamsburg; H. T. Bahnson, Salem; W. W. Lane, W. J. Love, J. C. Walker, Wilmington; Willis Alston, Littleton; W. J. H. Bellamy, Wilmington; W. T.

Ennett, Burgaw; G. G. Thomas, Wilmington; V. N. Sewell, Wallace; John McDonald, Washington; L. L. Staton, Tarborough; A. G. Carr, Durham; Jo. Graham, Charlotte; W. H. Lilly, Concord; T. J. Moore, Charlotte; J. H. Barker, Tarborough; T. D. Haigh, Fayetteville; L. J. Picöt, Littleton; W. C. Murphy, Magnolia; C. W. Eagle, Sparta; R. H. Speight, Tarborough; C. E. Moore, Battleborough; W. C. McDuffie, J. A. McRae, J. W. McNeill, Fayetteville; R. H. Lewis, Raleigh; J. D. Roberts, Magnolia; H. M. Alford, Greensborough; F. W. Potter, Wilmington; J. F. Harrell, Whiteville; W. P. Exum, Wayne county; A. M. Lee, Clinton; J. R. McClennon, Mooresville; R. J. Nobles, Selma; E. H. Hornaday, Willow Green; I. W. Faison, Fulton; W. H. Moore, Goldsborough; Hubert Haywood, Raleigh; O. P. Robinson, Fayetteville; C. E. Bradshaw, Hurdle Mills; A. D. McDonald, Wilmington; S. B. Jones, Charlotte; W. W. Gaither, Lenoir county.

The President appointed the following Committees:

CREDENTIALS.

Drs. J. J. Summerell, W. W. Lane, Alman Holmes.

FINANCE.

Drs. R. L. Payne, Geo. A. Foote, N. S. Henderson.

OBITUARIES.

Drs. Hugh Kelly, and J. F. Long.

Upon motion, the meeting adjourned until 3 o'clock this afternoon.

AFTERNOON SESSION.

The meeting was called to order at 3½ o'clock. Dr. W. W. Lane, on the part of the Committee on Credentials, reported that Drs. Ed. De La Rose King, H. S. Norcom, Thomas Hill and Jos. C. Shepard were entitled to membership without examination.

The Committee further recommended that the following newly examined physicians, having received their licenses, be admitted to the Society:

Drs. Richard Dillard, V. S. McNider, W. C. Galloway, K. J. Powers, J. M. Stansill, John T. Schonwald, R. H. Adams, L. W. Hunter, W. K. Anders, W. P. Mercer. Upon motion they were admitted to membership in the Society.

Dr. Long asked if the law requiring $5.00 as the minimum fee for the examination of a candidate for insurance applied to the examination of candidates for a Mystic Order with a beneficiary or insurance feature. After much discussion the sense of the meeting was taken and it was decided that it did not apply to examination of candidates for such orders as the Knights of Honor.

Dr. J. C. Shepard, of Pender, was received into membership of the Society.

Upon motion of Dr. McDuffie, 10 o'clock to-morrow was determined as the time for the delivery of the annual oration.

REPORT OF THE COMMITTEE ON FINANCE.

The Committee on Finance having examined the books of the Treasurer find that he has carefully and faithfully performed his duties, and respectfully beg leave to make the following report:

To amount of funds in Treasury at last session	$229.15
Received from all sources	491.60
Total	720.75
By amounts paid for Transactions and various other purposes	420.00
Leaving balance in Treasury	$300.75

The Treasurer has now in his hands a list of delinquent members whose names he will announce and if their dues are not paid their names will be dropped from his books, and by the laws of the Society they will be virtually expelled.

We further recommend an annual assessment of two (2) dollars per capita.

R. L. PAYNE,
GEO. A. FOOTE, } Committee.
N. S. HENDERSON,

REPORT OF THE COMMITTEE ON THE ADOPTION OF THE METRIC SYSTEM OF WEIGHTS AND MEASUREMENT.

To the Medical Society of the State of North Carolina:

Your Committee appointed at the Greensborough meeting of this Society, May, 1879, to report upon the advisability of the adoption of the Metric System, make the following report:

In the consideration of this subject, the first point to be settled was, Is the metric system necessary to a more accurate means of weighing and measuring within the range of medical and pharmacal needs?

Our decision was in the negative.

1st. Because the substitution of this system would create confusion and errors, faults not inherent in the system itself, but by reason of our inability to enforce its uniform adoption in the medical or pharmacal professions.

2d. Because in our sparsely settled communities, the physicians are for the most part pharmacists as well, and that to learn to think in a new language of values would have but little favor among any considerable number of them.

3d. That to make the mandate of this Society in the affirmative of any avail, we would have to make way for it by a system of elementary preparation, both as to physicians and apothecaries.

4th. Our intercourse with countries using the metric system is very limited, and therefore, there seems to be no reason to desire to disturb the old way.

Nevertheless, we think that it is incumbent on medical men and apothecaries to be familiar with the metric system, that they may be able to read and write it with facility, both for the purposes of translation and for the rare occasions of compounding medicines written in metric terms.

The adoption of the metric system for the purpose of expressing values which are not in ordinary use, by those members who may contribute to our transactions, would be a mere affectation, and neither promotive of the establishment of this system, if desirable, nor a true expression of our own way of doing things.

THOMAS F. WOOD,
CHAS. J. O'HAGAN, } Committee.
R. L. PAYNE,

The Chairman of above Committee then offered the following:

Resolved, That for the present it is not desirable or possible to establish the metric system among the medical or pharmacal professions in the State of North Carolina.

The Secretary read the resignation of Dr. R. K. Gregory, of Greensborough, and it was, on motion, accepted.

A letter of regret at not being able to attend the Convention, from Dr. P. E. Hines, of Raleigh, was read.

CONSTITUTION ALTERED MAKING A COMPLIANCE OF WITH LAW CREATING BOARD OF MEDICAL EXAMINERS A TEST OF MEMBERSHIP.

Dr. Satchwell introduced the following:

Whereas, It was the original intent, and is the spirit and meaning of the act incorporating this Society and establishing the State Board of Medical Examiners, that eligibility to membership should consist in holding a certificate of qualifications from said Board; therefore,

Resolved, That in lieu of Section 2d, Art. 32d, of the Constitution, defining the eligibility to membership, the following shall be and is hereby substituted:

SEC. 2d. The permanent members of the Society shall consist of such regular physicians as shall have complied with the law of the State embraced in an "act to incorporate the Medical Society of the State of North Carolina, and for the establishment of a Medical Board of Examiners," and shall receive two thirds of the votes of those present.

Unanimously adopted.

RECOMMENDATION BY THE EDGECOMBE COUNTY MEDICAL ASSOCIATION FOR THE REGULATION OF THE PRACTICE OF MEDICINE.

Whereas, It seems expedient to the members of the Edgecombe County Medical Society that some legislation for the better regulation of the practice of medicine and surgery in the State of North Carolina is necessary, and,

Whereas, It seems the only proper channel through which the initiatory steps in such a direction should be taken is the State Medical Society, an Association composed of the leading medical men of the State, therefore, be it

Resolved, That the delegates from this Society to the Medical Society of the State of North Carolina be, and hereby are instructed to present to it at its next annual meeting which is to be held in Wilmington, May 11th, 1880, the following series of resolutions, viz:

Resolved 1st, That Section 2, of the act incorporating the State Medical Society should be amended by striking out the word "provided" and the following word "no" so that the law shall read, "and any person proven guilty of violating this law shall be deemed guilty of a misdemeanor, to be punished by a fine of $50.00 or imprisonment for not more than three months."

2d. That a Board of Examiners for druggists should be appointed, in a manner to be decided upon, subject to the same regulations as the Board of Medical Examiners.

3d. That all the laws relating to physicians practicing without a license should be so amended as to include druggists.

4th. That certificates of death should be required in all cases where a physician was in attendance, from that physician; but where none attended, from some Justice of the Peace. These certificates to be presented to the County Superintendent of Health, who will give his permit for burial. It should be unlawful for an interment to be made without this permit.

5th. That the delegates from this Society are instructed to advocate the passage of these resolutions at the meeting of the State Society before mentioned, and furthermore, to ask the appointment of that Society of a committee who shall embody them, or such a modification as they may see fit to make, in a bill to be presented to the next session of the Legislature.

Signed,

JULIAN M. BAKER,
N. J. PITTMAN,
J. W. JONES, } Committee.

The whole subject was referred to a special committee as follows: Drs. S. S. Satchwell, John McDonald, W. T. Ennett, Thomas J. Moore, and H. M. Alford.

Dr. Summerell, Chairman of the Committee on Credentials, reported the following gentlemen as duly accredited delegates to the Society:

Edgecombe County Medical Society—Drs. N. J. Pittman and J. H. Baker.

Rowan County Medical Society—Drs. Hill and McLellan.

New Hanover Medical Society—Drs. W. G. Thomas, H. S. Norcom and Edward King.

REPORT OF THE DELEGATE TO THE DECENNIAL REVISION OF THE U. S. PHARMACOPŒIA.

Dr. Thomas F. Wood, delegate to the sixth decennial revision of the Pharmacopœia, reported that he represented the Medical Society in the Convention held in Washington, D. C.

The following gentlemen were nominated and elected as *Committee of Revision and Publication of the Pharmacopœia of the United States.*

Dr. Robert Amory, of Brookline, Mass.; Dr. F. A. Castle, of New York; Dr. D. L. Huntington, U. S. A.; Dr. B. F. Gibbs, U. S. N.; O. Oldberg, U. S. Marine Hospital Service; P. W. Bedford, of New York; C. Lewis Diehl, of Louisville, Ky.; Louis Dohme, of Baltimore, Md.; Thomas Doliber, of Boston; Dr. Laurence Johnson, of New York; Dr. J. F. Judge, of Cincinnati,

Ohio; John M. Maisch, of Philadelphia; G. F. H. Markoe, of Boston; H. H. Parsons, of Washington, D. C.; Dr. H. G. Piffard, of New York; J. P. Remington, of Philadelphia; Chas. Rice, of New York; Dr. W. S. W. Ruschenberger, of Philadelphia; Dr. E. R. Squibb, of Brooklyn; A. B. Taylor, of Philadelphia; W. S. Thompson, of Washington, D. C.; O. A. Wall, of St. Louis, Mo.; Dr. E. S. Wood, of Cambridge, Mass.; Dr. Thomas F. Wood, of North Carolina; and T. G. Wormley, of Philadelphia. Dr. Squibb declined to serve but promised all the assistance in his power to the Committee.

The Committee was empowered to fill its own vacancies, and also to employ skilled experts.

The items of the Nominating Committee's report read and adopted were those found in the report on the Revision of the United States Pharmacopœia, preliminary to the Convention of 1880, prepared and compiled by Charles Rice, Chairman of the Committee of the American Pharmaceutical Association, on the revision of the United States Pharmacopœia, with some amendments. They related to language, alphabetical arrangement, synonyms, cross references, description of crude drugs, description of chemicals, chemical formulæ, processes for chemicals, expressions of quantity, numerical relations of quantities, fluid extracts, temperature, definition of physical properties, specific gravity, definite expressions of weight, weight of finished product, and tables to be appended to the Pharmacopœia.

The following were added: That all doses be omitted from the Pharmacopœia, a table of saturations, and the Committee was empowered to add such other tables as might seem advisable.

A resolution that *parts by weight* be adopted in the formulæ of the Pharmacopœia was adopted.

Dr. Wood urged upon the members of the Society to give their aid to the Committee in this important work. The old Pharmacopœia was very little known by medical men and little used by pharmacists. This was because the work was not thoroughly up to the requirements of either profession. The new work is in the hands of some of the best working men in the pharmacal profession, but still it could not come to a final successful issue and be the companion volume of both professions, without the aid of every doctor pharmacists able to make suggestions as to improvement.

Dr. A. G. Carr read a paper on "Epithelioma of the Penis." Referred to the Committee on Publication.

Adjourned until 9 o'clock Wednesday morning, May 12th.

SECOND DAY—MORNING SESSION

The Society was called to order promptly at 9 o'clock by the President, Dr. J. F. Shaffner.

The Chair announced the following Committee on Nominations:

Drs. N. J. Pittman, J. J. Summerell, Eugene Grissom, and H. T. Bahnson.

Dr. Summerell, Chairman of Committee on Credentials made a partial report, submitting the following named gentlemen as eligible to become members of the Society:

Dr. R. A. Hasser, Tobaccoville, N. C.
" L. M. Powers, Plymouth, N. C.
" C. M. Pool, Salisbury, N. C.
" H. P. Ivy, Fayetteville, N. C.

Drs. J. A. McRae, W. C. McDuffie, J. W. McNeill, delegates from the Cumberland County Medical Society, coming duly accredited, were admitted to seats.

Dr. Pittman reported a case of ainhum, exhibiting the specimen.

Dr. T. J. Moore, of Charlotte, read the regular annual essay on "Pelvic Cellulitis."

Upon the conclusion of the speaker, Dr. McDonald, of Washington, moved that the thanks of the Society be tendered to Dr. Moore, and spoke briefly, highly complimenting the effort.

Dr. C. J. O'Hagan, in seconding the resolution, warmly endorsed the essay as a highly creditable and an exhaustive resumé of the subject.

Dr. Foote, endorsed the favorable comments of the gentleman, and moved the reference of the essay to the Committee on Publication.

The Secretary announced that letters were received from Drs. Hadley, Allison and Lyon, regretting their inability to attend this meeting.

Dr. Lilly, of Concord, exhibited a specimen of calculus taken from the bladder of a hog, with a string as a nucleus, and reported a case of biliary calculus with specimen.

Dr. Foote reported a case of urinary calculus, and exhibited a stone discharged weighing two drachms.

Dr. Summerell knew of a case of removal of stone weighing an ounce and a quarter from the female bladder, by simple dilatation.

COOKING SODA FOR BURNS.

Dr. Foote spoke of the use of common cooking soda in burns. He had used it with good results.

Dr. Tate Murphy had used cooking soda with good effects in burns, but found that the soda would crust and cut in the flesh.

Dr. John McDonald thought that the most efficient way to use soda was in saturated solution, and that the employment of it in this way obviated the objection spoken of by Dr. Murphy.

Dr. Holmes spoke of carbolic acid in the treatment of burns.

Dr. Gaither's experience corroborated that of Dr. Holmes.

Dr. Summerell had equally good effects from the employment of spirits of turpentine and alcohol in burns, when other remedies were not to be had.

ULCER OF THE LEG.

Dr. Murphy had a case of ulcer of the leg which from its extent rendered amputation necessary. The only thing remarkable about the case was the length of time the ulcer lasted, and the quickness of recovery after amputation.

Dr. John McDonald spoke of amputation and the subsequent use of carbolic acid antiseptically.

Dr. Bellamy asked if in the case of chronic ulcer mentioned above that Martin's bandage had been tried. He had seen intractable ulcer cured by Martin's bandage when other means had failed. He had also seen Martin's bandage used in amputations almost without the loss of blood.

Dr. John McDonald spoke also of the use of Martin's bandage in amputation, in very difficult cases, and with good results.

Dr. F. W. Potter had had good effects in treating chronic ulcer of the leg by means of grafts and adhesive plaster.

GALL STONES.

Dr. Thomas Hill, of Salisbury, was much interested in the treatment of gall-stones. He had had an extended experience, and believed that chloroform taken internally would dissolve gall-stones.

He had come to regard chloroform as a specific in the treatment of biliary calculi.

Dr. G. G. Thomas, Chairman of Wilmington Committee of Arrangements, announced that tickets for the excursion complimentary to members of the Society, visiting physicians and their friends and families were ready for distribution.

On motion of Dr. W. W. Lane, the Society adjourned until 3 o'clock.

SECOND DAY—AFTERNOON SESSION.

The Society was called to order promptly at 3 o'clock, Dr. J. F. Shaffner, President, in the chair.

Dr. Lane, of the Local Committee of Arrangements, announced that there was no need for the gentlemen intending to go on the excursion to the forts to be apprehensive about the time of return. The Committee fixed the return of the steamer at a time sufficient for every one to connect with the Fayetteville steamers and the northern, southern and western bound trains.

Dr. Ennett introduced a resolution, the effect of which was to allow Dr. McL. Graham and other members whose membership had been forfeited by arrears to renew their membership by payment of dues.

A discussion ensued which traversed the whole ground of the action of the Society in suspending members for arrearage for a term of years.

The motion of Dr. O'Hagan to lay on the table, finally prevailed, upon the grounds that the Committee on Credentials, had ample means to estimate the circumstances in each case.

Dr. A G. Carr, moved that the revised constitution be this year printed with the Transactions, that each member shall be furnished with a copy.

The Chair called for the reports of Sections.

Dr. W. C. McDuffie, Chairman of the Section on Surgery and Anatomy stated that he was unable to make a report, as he had been too busily engaged.

Dr. Wilson, Chairman of the Section on Obstetrics and Diseases of Women was absent, and consent was given for Dr. R. I. Hicks to read the report.

Dr. James McKee, Chairman of the Section on Practice of Medicine, and Dr. Tull on Pathology and Microscopy were both absent.

Dr. C. Tate Murphy had not completed his report, and was granted further time, and when complete to present his report to the Committee on Publication.

Dr. R. H. Lewis, Chairman of the Section on Ophthalmology and Otology submitted a comprehensive and interesting report, which was referred to the Committee on Publication.

Dr. Gaither offered the following resolution:

Resolved, That the committee appointed upon the Edgecombe resolution be instructed to consider and report in regard to the advisability of urging upon the profession and people what action we should take to procure a statutory lien for medical attendance. Adopted.

Dr. Wood, at the request of Dr. E. A. Anderson, read a letter from Dr. J. C. LeHardy of the Medical Association of Georgia, asking this Society to unite with them in the formation of a new United States Board of Health.

Dr. Wood moved that the subject be made the special order for to-morrow morning, immediately after the regular order of business. Adopted.

Dr. J. D. Roberts, of Magnolia, read a paper on hip-joint disease, exhibiting apparatus, and their application to a case under his treatment.

Dr. Henry W. Faison commented on the treatment of hip-joint disease, and this case in particular.

Dr. Picot moved the reference of the paper to the Committee on Publication.

Dr. Holmes, from the Committee on Credentials, moved that Dr. L. Hussey be admitted to membership. Carried.

Society then adjourned to meet at 8:30 P. M., to hear the annual oration by Dr. Eugene Grissom, in the same building. (Opera House.)

A large audience of medical men, and ladies and gentlemen of the city greeted Dr. Grissom in the Opera House, to hear his address on "*Medica Science in Conflict with Materialism.*"

This address was subsequently referred to the Committee on Publication.

THIRD DAY—MORNING SESSION.

The Society was called to order at 9 o'clock by Dr. W. C. McDuffie, of Fayetteville, Vice-President.

The Secretary announced that Dr. Shaffner, the President had been unexpectedly called home.

Dr. Summerell, Chairman of the Committee on Nominations, submitted the names of the following gentlemen as officers for the year 1880:

For President:

Dr. Richard B. Haywood, Raleigh.

Vice-Presidents:

Dr. J. A. McRae, Fayetteville.
" W. H. Lilly, Concord.
" R. H. Speight, Tarborough.
" W. J. H. Bellamy, Wilmington.

Treasurer:

Dr. A. G. Carr, Durham.

Secretary:

Dr. L. Julian Picöt, of Littleton.

Orator:

Dr. J. F. Long, Newbern.

DELEGATES TO AMERICAN MEDICAL ASSOCIATION.

Dr. A. W. Knox, Raleigh.
" Eugene Grissom, Raleigh.
" Hubert Haywood, "
" Thomas F. Wood, Wilmington.
" G. G. Thomas, Wilmington.
" J. F. Shaffner, Salem.
" Jos. Graham, Charlotte.
" T. D. Haigh, Fayetteville.
" C. J. O'Hagan, Greenville.
" J. H. Baker, Tarborough.
" M. Whitehead, Salisbury.

DELEGATES TO VIRGINIA MEDICAL SOCIETY.

Dr. R. L. Payne, Lexington.
" H. M. Alford, Greensborough.

Dr. H. T. Bahnson, Salem.
" J. W. Jones, Tarborough.
" Preston Roan, Winston.
" H. S. Norcom, Wilmington.

DELEGATE TO PUBLIC HEALTH ASSOCIATION.

Dr. Thomas F. Wood, Wimington.

COMMITTEE TO APPOINT ESSAYIST.

Dr. L. L. Staton, Tarborough.
" H. W. Faison, Faison.
" R. L. Payne, Lexington.

COMMITTEE ON OBITUARIES.

Dr. E. Burke Haywood, Raleigh.
" Peter E. Hines, Raleigh.
" James McKee, Raleigh.

PUBLISHING COMMITTEE.

Dr. Thomas F. Wood, Wilmington.
" Geo. Gillett Thomas, "
" L. J. Picöt, Littleton.
" C. J. O'Hagan, Greenville.

BOARD OF CENSORS.

Dr. N. J. Pittman, Tarborough.
" Chas. J. O'Hagan, Greenville.
" J. J. Summerell, Salisbury.

The Chair read the names of the following gentlemen as having been appointed by the President, Chairman of Sections :

Surgery and Anatomy—Dr. Allman Holmes.
Obstetrics and Gynæcology—Dr. Willis Alston.
Practice of Medicine—Dr. I. W. Faison.
Materia Medica and Therapeutics—Dr. W. C. Murphy.
Microscopy and Pathology—Dr. Hubert Haywood.
Ophthalmology and Otology—Dr. George Gillett Thomas.

Dr. W. C. Murphy, read an interesting paper on ancient medicine, and in conclusion stated it was but the result of a few hour's reading and not for publication.

Dr. McDonald, of Washington, moved to insert the following amendment after Section 3, Article 8 of the Constitution : "And

he shall not be reïnstated to the rights and privileges of the Society unless by a two-third's vote of all the members present and full compliance with all the requirements of Section 2 of the same article. Adopted unanimously.

Dr. S. S. Satchwell, Chairman of the Committee on Obituaries, reported that since the last session of the Society the following gentlemen had died: Drs. Edmund Strudwick, Hillsborough; W. W. Davis, A. E. Wright, J. Francis King, Wilmington; and William Little, Raleigh.

Dr. A. W. Knox of Raleigh, from the Board of Censors, read the proceedings of the Guilford Medical Association in the case of Dr. R. W. Glenn, charged with violating the Code of Ethics.

Dr. Glenn had been guilty of conduct of sufficiently grave character to cause him to be expelled from the Association. The specifications were produced.

At a subsequent meeting of this County Association the former decision was repealed, and the whole case referred to the State Medical Society.

On motion of Dr. McDonald, of Washington, the case of Dr. R. W. Glenn, charged with irregular practice, was referred back to the Medical Association of Guilford county.

The consideration of the letter from the Georgia Medical Society made the special order for this time, was then begun.

Dr. Wood read the bill proposed by the Medical Society of Georgia for the creation of a new National Board of Health by Congress, but could not favor it.

Dr. Anderson read a paper on existing quarantine regulations for this State and port, and declared himself in favor of the non-interference of the general government in the matter, but desired its support for local officers and laws.

Dr. Wood offered the following:

Whereas, The National Board of Health has conducted the initial sanitary work entrusted to it with wisdom, giving proper direction to future inquiries and energizing the national movement by its vigorous example,

Be it resolved, That the Medical Society of North Carolina deems it unsound in policy to interfere with the work in the hands of such eminently competent men, because it would be unreasonable to expect anything approaching a perfect national system of sanitation in the short time the National Board of Health has been in exis-

tence; and to substitute a new law for the old now, even if it had equal merit with it, would be to retard the work of sanitary progress, if it did not imperil the very existence of any law.

Resolved, 2d, That it is desirable to have a national system of quarantine, if possible, and that quarantine officers should be appointed from resident physicians of the port in which quarantine is established. That suitable buildings for quarantine service should be erected by the general government, and such other methods as will have for their object the carrying out of a system of uniform quarantine.

Resolution was laid on the table after a warm discussion.

REPORT OF THE COMMITTEE TO CONSIDER THE RESOLUTIONS OF THE EDGECOMBE COUNTY MEDICAL ASSOCIATION AS TO THE REGULATION OF THE PRACTICE OF MEDICINE AND PHARMACY.

To the Medical Society of the State of North Carolina:

The committee appointed to report upon the resolutions of the Edgecombe Medical Association, as laid before our State Society, beg leave respectfully to submit the following report:

We endorse the recommendation of the Edgecombe Association that, in order to the legal protection of the community from ignorant or incompetent druggists, a law should be passed by the Legislature requiring that all druggists dispensing medicines, and filling prescriptions of physicians, shall, as a requisite qualification for this responsible service, be required to obtain a license from our State Board of Medical Examiners. The cause of humanity demands the existence and enforcement of such a measure of protection to the health and lives of the people of any community in North Carolina.

In relation to the resolution of the Society that your committee should report upon the subject of asking from our next Legislature the enactment of a law giving to physicians what may be called a statutory lien for medicines furnished and medical attendance rendered, we have considered that duty also.

Your committee are of the opinion that if the laborer and mechanic are entitled to such lien, if the landlord is entitled to such upon the crops of his tenant, if the merchant is entitled to such lien upon the farmer or produce, for supplies and advances furnished, then the medicines, brains, and professional services of the physician furnished to his patient, are entitled to an efficient protective lien upon the property of such patient. The interest of the

patient, his health and life, would be better protected and advanced by such a wise and judicious statutory lien in behalf of his physician. In the great work of medical improvement and reform in our State, and of sanitary progress, now imposing new responsibilities and higher duties upon this Society and the medical profession of the State, we cannot turn a deaf ear to the claims of the physician, to the support of his family and the education of his children. In the proverbial unwillingness of a large portion of our patients to pay the physician even when able to do so, the importance and necessity of such a statutory lien, are too self-evident to require demonstration. The well-known poverty of a large portion of the medical profession of our State, and their consequent inability to do justice to themselves, their families, and to the claims of their profession, is owing very materially to their inability to collect just and reasonable bills. Remove these difficulties by such a statutory lien as will work no wrong or injustice to the patient, and it will be better for that patient as well as the physician.

Your committee, therefore, recommend the appointment, by the President, of a Committee of five members of this Society, whose duty it shall be to present to the next Legislature a memorial and bill contemplating the enactment of such law or laws as may best meet and secure the ends, aims and objects contemplated.

Respectfully submitted,

S. S. SATCHWELL,
W. T. ENNETT,
T. J. MOORE,
JOHN MCDONALD, } Committee.

The following committee was appointed by the President to carry out the purposes of the foregoing report:

Drs. S. S. Satchwell. John McDonald, Joseph H. Baker, R. H. Lewis, and G. A. Foote.

The Society then adjourned to meet at 3 o'clock.

AFTERNOON SESSION.

Dr. R. F. Lewis, second Vice-President, in the Chair.

Drs. J. F. Harrell read a report of a difficult obstetrical case and its treatment.

Dr. E. Porter addressed the Society on the use of cotton lint in the treatment of incised and lacerated wounds, instancing several cases from his practice in which its application as a dressing was attended with the most satisfactory results.

Dr. R. I. Hicks presented the regular report on the "Progress of Gynæcology" by Dr. Wm. R. Wilson. Referred to the Committee on Publication.

The newly elected President, Dr. Haywood, of Raleigh, was then inducted into office by Drs. Knox and McRae. On taking his seat Dr. Haywood said: "I thank you, gentlemen, for this manifestation of your kindness in electing me to preside over your deliberations. It is an honor to which I have never aspired and in its bestowal was as unexpected as it was undeserved. At this date, when we have so large a number of intelligent physicians present, it is an honor well calculated to flatter the vanity of any ordinary man; more especially is it so to me who have witnessed the disadvantages under which your Society labored at its inception, and the struggles it underwent for many years to maintain its existence.

"A few physicians assembled at your Capital in 1849 to form a Medical Society for the State. Amongst the number, I remember Drs. Edmund Strudwick, of Orange; James E. Williamson, of Caswell; James A. McRae, of Fayetteville; Frederick J. Hill, of Brunswick; William George Thomas, of Wilmington; N. J. Pittman, of Edgecombe; Thomas N. Cameron, of Fayetteville; and Charles E. Johnson, William G. Hill, and William H. McKee, of Raleigh.

"Dr. Strudwick (whose accidental death we have been so recently called on to deplore) moved that Dr. Frederick J. Hill, of Brunswick, be called to the chair. On motion of Dr. Strudwick, the sense of the meeting was taken on the formation of a State Medical Society and decided in the affirmative. When the time for the election of officers arrived, Dr. Frederick J. Hill said that he was not an active member of the profession, having retired many years before on account of age and infirmities, and asked, as a favor to him, that he be not placed in nomination. He suggested the name of Dr. Edmund Strudwick, of Orange, as permanent President. Dr. Strudwick was unanimously elected, and Dr. Hill, on retiring from the chair, was unanimously elected the first honorary

member of this Society. An address to the physicians of the State was prepared and ordered to be published by a committee composed of Drs. Johnston B. Jones, McKee, Pittman, McRae and R. B. Haywood.

"The expectations for a large attendance in 1850 were very great, but destined to bitter disappointment.. On calling the roll but six members answered to their names. The Vice-President, Dr. Williamson; the Secretary, Dr. W. H. McKee; the Treasurer, Dr. William G. Hill, and *three* members—Drs. Thomas N. Cameron, Pittman and R. B. Haywood. Drs. Strudwick and Thomas arrived a short time after, making eight. The propriety of disbanding was again discussed and it was resolved to 'hold the fort.' Johnson and Cameron wavered; Strudwick, Thomas and Pittman stood firm, and with what success *you* gentlemen are best qualified to judge. Then we had eight, to-day we have more than *two hundred and eight.*

"Agamemnon said that if he had ten such Generals as Nestor the walls of Troy would soon be in ashes. Strudwick, our Agamemnon, is gone, but I am glad to see among the living to-day our three Nestors—Thomas, Pittman and McRae; they have been 'faithful to the end.'

"In conclusion, gentlemen, I have only to say that I accept the position to which your partiality has assigned me, and will endeavor to perform the duties to the best of my ability."

Dr. Wood, Secretary of the North Carolina Board of Health read an outline of the work done the first year of organization of that body.

REPORT OF THE SECRETARY OF THE NORTH CAROLINA BOARD OF HEALTH FOR THE YEAR ENDING APRIL, 1880.

To the President and Members of the North Carolina Board of Health:

GENTLEMEN:—In accordance with the following resolution passed at our meeting of organization, I have the honor to report to you in outline the work undertaken by your Secretary.

"*Resolved,* That the execution of the Board of Health Law be entrusted to the Secretary,—the details of its provision being under his management,—and that the Secretary make his report to the next meeting of the Board."

The objects attempted to be attained have been

First, The organization of a method to secure the registration of vital statistics.

Second, Inculcation of elementary sanitary principles among the people.

The science of vital statistics is in its infancy in this country. Notwithstanding the fact that practical sanitarians have found it to be essential, to a successful prosecution of their work, very few sanitary officers have succeeded in developing such an organization as to meet their requirements.

The difficulties lying at the very threshold of such an organization are easy to comprehend, but difficult to overcome. In every large community such as a State, we find, a very large diversity of interests. In such a large territory, voluntary returns of statistics are not to be relied on. Even if the reporter be ever so much convinced of the good he is rendering, the demands upon his time for the regular business of his life by which his support is attained, would warrant him in letting this unpaid work go undone, whenever there was any conflict. And then, too, reporting of the voluntary sort would necessarily be of the most elementary character, and as above intimated, fitful.

Another difficulty, and the most important one, perhaps, is a lack of conviction on the part of the great body of medical men, as to the necessity of the work; and the lack of conviction comes from the lack of a proper knowledge of the development of Statistical Science. This state of things can only be overcome by the slow and troublesome course of the dissemination of sanitary education.

The experience I have gained for the few months I have had this matter in hand is far from gratifying. In fact it has been sometimes painful, and at other times quite trying to the patience. It was not expected that a system of vital statistics was going to grow at the will of the statisticians, but no little dependence was placed in the zeal of the members of the Medical Society, as promoters of a work that the body to which they belong had repeatedly sanctioned and favored. From this source there has been an abundance of apathy, indifference, prejudice and opposition.

Forty-eight counties out of the ninety-four have organized, but few of them have attained the standard set forth in the law. Some of the most populous counties have not been willing to undertake

an organization, upon the ground that the law was imperfect, exacting work and imposing responsibilities without adequate compensation. Other counties have overcome these obstacles, and have done pioneer work of organization, with sufficient zeal and determination to win the approbation and confidence of the community, securing for the Superintendent of Health fair compensation. The effect of such example if the number were sufficiently multiplied, will be to establish foci of influence in the general State work, that will secure a permanent foothold for future progress.

It is useless for this Board to expect the best results without the aid of vital statistics. The range of matter desirable would include

1st. Births.

2d. Marriages.

3d. Deaths.

4th. Number of persons falling sick.

The *first* item has never been a matter of legal registration. The *second* item is quite correctly registered under the imperative law attaching a penalty for non-conformance.

The registration of deaths is faithfully kept in Wilmington, Newberne and Raleigh, death certificates being required before permits for burial are issued.

The registration of cases of sickness, has been imperfectly done in many counties under the direction of the State Board of Health.

THE IMPORTANCE OF REGISTRATION

cannot be too earnestly dwelt upon. It is of advantage to the material interests of the State in respect to the influx of emigrants to settle upon our unoccupied lands.

It is no use for our Agricultural Department to send out circulars to invite settlers, without they can send some official statement as to the health of the different sections. To say in general terms that a region is "healthy," will not satisfy a foreigner, especially from any of the European nations, as they are used to official bulletins, giving accurate statements.

It is of no use to attempt to institute sanitary remedies until we know what the needs of the case are. We must record cases of sickness, and deaths that we may study the virulency of the diseases, and work out the prevention. We must know what the ratio of deaths to the births, that we may know whether we are advancing

or retrograding in our civilization. In short, sanitary science, the science of prevention, is one of the demands of our advancing civilization, and we dare not evade its influences, and expect to keep pace with other States who are joined in the same race for superiority. But this end cannot be attained by speech-making, or learned essays, or loud self-glorification ; it must come from the quiet organized drudgery of observing and recording. And this organization can have no life, except there is money sufficient to pay the registrars for their difficult work.

I will now speak of the system devised for this purpose, taking one county as an example.

After the organization of a County Board, printed and written instructions were issued to the Superintendent of Health who is the county executive office of health, and registrar of vital statistics.

He distributed to every doctor memorandum books with printed lists of diseases. He sent out also death returns blanks to individual physicians.

All that was necessary for the physician to do was to make a memorandum of his diseases and deaths and send them monthly to the Superintendent of Health. The Superintendent is by law required to make returns to the Secretary's office by the 10th of the month for the month preceding it, or be liable to a fine of $1 a day for every day of delinquency. Notwithstanding this penalty, and notwithstanding the ease with which this work could have been done, not a County in the State is entitled to the credit of having done the work required.

I then found it necessary to change somewhat the method, and issued a new form of enquiry. It was necessary to exclude vital statistics from this form, and it was only then that I had any success. The material then collected by the Superintendents was of more value and sufficiently important to embody in a Bulletin, somewhat after a plan foreshadowed by a committee appointed by the State Medical Society at the Warrenton meeting. I am not at all satisfied with what we were doing, but I wanted to make a beginning, however humble, hoping by the experience gained to go on to more important work.

From sanitarians in other States I have had some encouraging commendations. From sanitarians in the State, from every doctor in the State, I have to still plead for support and aid.

If you will run your eye down the Bulletin under "Remarks," you will see for yourself where our failure lies. It would seem that the members of this Society had forgotten that the Board of Health was their creature. It would seem that all the oratory that has been expended in the past, calling upon the Legislature, calling upon the citizens, calling upon the doctors for help and encouragement meant nothing. For when the opportunity comes, and a little work is demanded—*a very little work*—we see an exhibition of the most unwarrantable indifference. Gentlemen, treat this work just as though it were the enterprize of a few individuals, started for their own aggrandizement ; whereas, the truth must be bluntly told that the Medical Society has chosen from their number persons they considered fittest for the work ; with a full knowledge of the fact that the Secretary was doing the work at his own private expense, barring the mean pittance of $200 from the State, gentlemen of this Society have stood by with indifference and have seen the burden fall with great weight upon one person, without even putting their pen to paper to give what might have been the all-desired aid.

The actual sanitary work done, has been confined to the inculcation of elementary sanitary principles among the people.

The first step taken towards the accomplishment of this end was to call the attention of the public to their dwellings, food and water.

As the analysis of water was needed to convince the unsuspecting of the condition of their sources of water supply, I called attention to the provision made by the State for these analyses. Very many families all over the State have availed themselves of this opportunity, and the results have served to teach the importance of examining, critically, articles of daily consumption.

The analyses showed in a great majority of cases that well-water was impure, and with this important item as a starting point, enquiry as to other sanitary matters has followed. A tabular statement of analyses by towns will be presented in the report of your Secretary to the next Legislature, through the Governor.

The work of analysis is temporarily suspended by reason of the vacancy in the office of Chemist at the Agricultural Experiment Station. It is hoped the work will soon be taken up again.

UNIFORMITY OF POST-MORTEM EXAMINATIONS.

In order that there should be uniform post-mortem examinations by Superintendents of Health, who by the law are entrusted with such examinations for coroner's inquests, a pamphlet was prepared by your Secretary, being founded on the German Regulations for 1877, with changes and additions. This work has been put in the hands of Superintendents in every county, and is the standard required by the rule of the Board.

Superintendents of Health labor under great disadvantages in these examinations for coroner's inquests. Experience has convinced the Board that coroner's inquests as usually performed are entirely valueless in a medico-legal point, and are far more expensive than is necessary.

By far the greater number of inquests are perfunctory performances in which the coroner puts the verdict in the mouth of the willing foreman. It is not insinuated that this verdict is necessarily incorrect, but a verdict so palpably plain as many of them does not require the expensive intervention of a coroner's jury to determine, and could therefore be dispensed with entirely.

These inquests to have any value should be under the control of a medical expert, and it seems to the Board that this duty could be entrusted with perfect safety to the Superintendent of Health. If after examination into the particulars, either alone, or after consultation with the County Board of Health it is deemed advisable, then an inquest should be proceeded with. As it now stands the Inquest Law is a farce.

For example!

A man is seen by many by-standers to fall accidentally into the river. His body is recovered after a few days. It is identified. A coroner's jury is called at an expense to the county of at least twenty dollars. The perfunctory proceeding is soon ended, and the jury wisely comes to the conclusion that it was accidental drowning. Numerous cases are occurring monthly in the larger towns, which show the utter incompetency of the present law. As the matter now stands the coroner by advice of the jury has to determine whether a medico-legal inspection is necessary.

DISINFECTION, DRAINAGE, DRINKING WATER AND DISINFECTANTS.

A pamphlet was issued in June, 1879, giving plain instruction on

the more important matters under these topics. The success of the pamphlet was so great that a large edition was exhausted.

Professor Wm. Cain, Civil Engineer, and member of the Board was requested to continue the subject which he did in a pamphlet of thirty pages.

LIMITATION AND PREVENTION OF DIPHTHERIA.

At the request of your Secretary, Dr. R. L. Payne, of Lexington, member of the Board, contributed an essay on the *Limitation and Prevention of Diphtheria.* This was deemed urgently necessary as this scourge was prevalent in many counties, causing in some instances panics in whole communities. A large edition of this pamphlet was exhausted within a month after its issue.

In the meantime Professor William Cain's pamphlet on

SANITARY ENGINEERING

was exhausted and applications were coming in daily for it. At my request, Mr. Cain kindly consented to re-write the essay, and a second edition enlarged to 90 pages was issued. In all parts of the State, these pamphlets on elementary sanitary subjects were well received, and we believe the teaching inculcated will bring very many of our people to consider the necessity of a general sanitary movement.

A YEARLY COLLECTION OF STATISTICS.

We must not let an opportunity pass to glean the crop of vital statistics, and having this item in view your Secretary recommends that we attempt to have a law covering the following points enacted by the next Legislature.

Every citizen listing his taxes shall give the following items on the same blank furnished for his tax-list :

1. Number of marriages in the family since last assessment.
2. " " births " " " " " "
3. " " deaths " " " " " "

This can be easily done, and although there are many chances of error, it is better than anything we have yet devised.

It is, furthermore, desirable that material changes be made in our law, and your Secretary suggests that a committee from the Board attend the next Legislature and ask that the needed changes be made.

The compensation of the County Superintendent of Health should be the usual rates allowed to physicians in the several counties according to the prevailing custom, and at the discretion of the Board of County Commissioners.

All these items can be arranged on the spot more satisfactorily, as soon as the temper of the Legislature be ascertained.

I have laid before this body an outline of the work of the North Carolina Board of Health, by the request of the Board, recognizing as we do that as an auxiliary body, created by you and responsible to you, to show how great a work we have before us, and how much we need the help of every doctor, and the the undivided support of the Medical Society of North Carolina.

Respectfully submitted,

THOMAS F. WOOD,

Secretary N. C. Board of Health.

RESOLUTIONS ENDORSING THE NORTH CAROLINA BOARD OF HEALTH.

WHEREAS, The General Assembly of the State of North Carolina at its last regular session passed a bill entitled an act supplemental to an act creating the State Board of Health.

Resolved, That the Medical Society of the State of North Carolina, in convention assembled, cheerfully endorse the objects contemplated in said bill, and regard it as a wise and patriotic scheme for the public good, wholly consistent with the wants of our advancing civilization, and that in enacting this law, our law-makers were possessed of genuine patriotism, and an honest effort by protecting the public health, and the publication of our health bulletins abroad, to invite immigration to and build up the material interests of the State.

Resolved, That the opinion of the State Medical Society unites with that of the President and Secretary of the State Board of Health whose positions have enabled them to witness its workings, that the present law liberal in its provisions for the care of our sick in jails, and poor houses, for the prevention of epidemics, and the invasion of diseases dangerous to to the public health, is still imperfect and would be more efficient and operative if properly amended.

Resolved, That the Secretary of this Society be instructed to furnish the President of the State Board of Health with a copy of these resolutions with the permission of using this endorsement in his next annual report to the Governor.

After an animated discussion as to the place of meeting, Asheville was selected, and the last Tuesday in May as the time.

BOARD OF EXAMINERS.

Dr. Haigh announced that Dr. Robert I. Hicks having removed to Virginia, had tendered his resignation as a member of the Board of Examiners and that Dr. Richard H. Lewis, of Raleigh, had been elected in his place.

Dr. John McDonald, of Washington, was announced as essayist.

Dr. C. Tate Murphy offered a resolution thanking Dr. Grissom for the able address delivered by him, and requesting a copy for publication. Carried.

Dr. John McDonald offered a resolution of thanks to the citizens of Wilmington for their generous hospitality. Carried.

Dr. L. J. Picöt offered a resolution of thanks to the railroads for their liberality in passing delegates for half fare.

Society adjourned to meet in Asheville on the last Tuesday in May, 1881.

J. F. SHAFFNER, M. D., President.

L. JULIEN PICÖT, M. D., Secretary.

The following is a complete list of

NEW MEMBERS FOR 1880—RECAPITULATION.

Dr. Richard Dillard, Jr., Edenton.
" V. St. Clair McNider, Jackson.
" L. M. Powers, Plymouth.
" W. C. Galloway, Snow Hill, Green Co.
" K. J. Powers, Camera, Pender County.
" J. McQ. Stansill, Rockingham.
" J. T. Schonwald, Wilmington.
" R. H. Adams, Gastonia.
" L. W. Hunter Charlotte.
" W. K. Anders, Gravel Hill.
" N. B. Herring, Toisnot.
" M. W. Hill, Statesville.
" E. T. Speed, Tarborough.
" L. Hussey, Warsaw.
" W. P. Mercer, Toisnot.
" H. S. Norcom, Wilmington.
" Ed. De La Rose King, Wilmington.
Dr. S. J. Montague, Winston.
" J. L. Nicholson, Richlands, Onslow co.
" John Whitehead, Salisbury.
" T. W. Harris, Chapel Hill.
" H. T. Ivy, Fayetteville.
" A. B. Huntley, Wadesborough.
" D. B. Frontis, Lexington.
" J. A. Collins, Enfield.
" C. M. Pool, Salisbury.
" John Irwin, Villa Franca.
" G. H. West, Newton.
" G. E. Matthews, Ringwood.
" T. S, Burbank, Wilmington.
" Thomas Hill, Salisbury.
" J. C. Shepard, Scott's Hill.
" R. A. Hauser, Tobaccoville.

REVISED ROLL

Of Members in the Order in which they Signed the Constitution.

Those marked * were present at last meeting. Marked (D) denotes deceased.

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Dr. E. Strudwick, (D) Hillsborough.
" N. J. Pittman,* Raleigh.
" J. B. Jones, Charlotte.
" R. B. Haywood,* Raleigh.
" Jas. A. McRae,* Fayetteville.
" Jas. B. Dunn, Raleigh.
" Will. Geo. Thomas,* Wilmington.
" S. S. Satchwell,* Rocky Point.
" J. R. Mercer, Tarborough.
" E. B. Haywood, Raleigh.
" Jas. P. Bryan, Kinston.
" A. B. Pierce, Halifax.
" H. W. Faison,* Faison's Depot.
" Allman Holmes,* Clinton.
" E. A. Anderson,* Wilmington.
" C. T. Murphy,* Clinton.
" Hugh Kelly,* Statesville.
" F. M. Henderson,* Concord.
" J. J. Summerell,* Salisbury.
" P. E. Hines, Raleigh.
" M. Whitehead, Salisbury.
" J. G. Ramsay, Rowan Mills.
" R. H. Winborne, Edenton.
" J. K. Hall, Greensborough.
" Geo. A. Foote,* Warrenton.
" Eugene Grissom,* Raleigh.
" R. L. Payne,* Lexington.
" F. M. Rountree,* Snow Hill.
" W. A. Collett, Morganton.
" E. F. Ashe, Wadesborough.
" D. B. Woods, Rowan Mills.
" Charles J. O'Hagan,* Greenville.
" W. A. B. Norcom, Edenton.
" J. F. King, (D) Wilmington.
" J. W. Jones, Tarborough.
" J. F. Long,* Washington.
" John K. Ruffin, Wilson.
" C. W. Knight, Tarborough.
" J. B. Hughes, New Berne.
" W. W. Gaither,* Lenoir.
" J. C. Gidney, Shelby.
" William Little, (D) Raleigh.
" Wm. R. Wood, Scotland Neck.
" J. H. Hicks, Faison.
" M. T. Savage, Scotland Neck.
" Thomas F. Wood,* Wilmington.
" Thomas C. Powell, Rocky Mount.
" Franklin Hart, Tarborough.
" Geo. L. Kirby,* Goldsborough.
" L. A. Stith, Wilson.
" J. F. Shaffner,* Salem.
" W. T. Cheatham, Henderson.
" Robert I. Hicks, Williamsborough.
" Elisha Porter,* Rocky Point.
" Walter Debnam, Earpsborough.
" F. J. Haywood, Raleigh.
" C. R. Barron, Toisnot.
" B. P. Alston, Warrenton.
" G. G. Smith, Concord.
" D. N. Patterson, Mangum.
" Joel G. King, Warrenton.
" J. B. Sugg, Tarborough.
" H. T. Bahnson,* Salem.
" Geo. N. Ennett, Saunders' Store.
" Chas. Duffy, Jr., Newbern.
" W. W. Lane,* Wilmington.
" R. L. Cowan, Rowan Mills.

Dr. R. F. Lewis,* Lumberton.
" James S. Robinson, Elizabeth.
" W. J. Love,* Wilmington.
" J. C. Walker,* Wilmington.
" James McKee, Raleigh.
" L. L. Alexander, New Hanover Co.
" Willis Alston,* Littleton.
" W. J. H. Bellamy,* Wilmington.
" Geo. F. Lucas, Point Caswell.
" Walter Brodie, Whittaker's.
" A. S. Jones, Warrenton.
" H. Otis Hyatt, Kinston.
" J. L. Knight, Tarborough.
" C. S. Killebrew, Tarborough.
" W. T. Ennett,* Rocky Point.
" D. McL. Graham,* Wallace.
" W. I. Royster, Raleigh.
" G. Gillett Thomas,* Wilmington.
" V. N. Seawell,* Wallace.
" Geo. S. Attmore, Newbern.
" S. B. Flowers, Mt. Olive.
" P. W. Young, Oxford.
" John McDonald,* Washington.
" Francis Duffy, Newbern.
" L. L. Staton,* Tarborough.
" T. B. Germon, Ridgeway.
" A. G. Carr,* Durham.
" John A. Allison, Statesville.
" J. B. Gaither, Salisbury.
" J. M. Hadley, La Grange.
" W. G. Johnson, Farmington.
" W. J. McLinden, Wadesborough.
" Josh. W. Vick, Selma.
" Isaac C. Green, Warrenton.
" P. L. Murphy, Wilmington.
" Joseph Graham,* Charlotte.
" J. M. Miller, Charlotte.
" J. L. Henderson, Mt. Pleasant.
" J. R. Wilson, Harris' Depot.
" J. S. Blair, Harris' Depot.
" J. F. Miller, Goldsborough.
" S. J. Alexander, Randalsburg.
" H. K. DeArmand, Pineville.
" J. P. McCombs, Charlotte.
" O. P. Houston, Mt. Ulla.
" S. J. Gilmer, Concord.
" John Fink, Concord.
" W. H. Lilly,* Concord.
" Thomas J. Moore,* Charlotte.
" E. S. Foster, Louisburg.
" A. A. Hill, Lexington.
" J. H. Baker,* Tarborough.
" J. B. Hall, Scotland Neck.
" J. M. Richardson, Lincolnton.
" T. D. Haigh,* Fayetteville.
" Alex. Montague.
" L. J. Picot,* Littleton.
" David N. Sills, Castalia.
" John A. Drake, Battleborough.
" W. C. Murphy,* South Washington.
" W. J. Cooke,* Louisburg.
" E. J. Thorpe, Rocky Mount.
" Joshua Taylor, Williamston.
" D. W. Bullock, Tarborough.
" W. H. Whitehead, Battleborough.
" C. W. Eagles,* Sparta.
" R. A. Sills, Nashville.

Dr. R. H. Spelght,* Tarborough.
" C. E. Moore,* Battleborough.
" H. G. Land, Poplar Branch.
" R. J. Grimes, Robersonville.
" W. C. McDuffie,* Fayetteville.
" B. W. Robinson, Fayetteville.
" P. S. Peteway, Enfield.
" Henry Tull, Kinston.
" A. V. Budd, Egypt.
" R. R. Robeson, Kyles' Landing.
" M. J. DeRosset, New York City.
" W. A. Murdock, Mt. Ulla.
" James W. McNeill,* Fayetteville.
" J. D. McMillan, Lumberton.
" W. H. McKinnon, Fayetteville.
" Jos. Hollingsworth, Mt. Airy.
" Robert W. Glenn, Greensborough.
" Beverly Jones,* Forysthe County.
" Adam E. Wright, (D) Wilmington.
" Nat. S. Henderson, Pelham.
" Jeff. Seales, Reidsville.
" Geo. W. Long, Graham.
" Richard H. Lewis,* Raleigh.
" Geo. W. Graham, Raleigh.
" Preston Roan, Winston.
" J. D. Roberts,* Magnolia.
" L. H. Hill* Germantown.
" W. W. Wilhelm, Mooresville.
" W. R. Wilson, Townesville.
" E. Nelson Booker, Clayton.
" N. S. Siewers, Salem.
" L. G. Hunt, Huntsville.
" Jas. E. Griffith, Clemmonsville.
" W. P. Mallett,* Chapel Hill.
" H. M. Alford,* Greensborough.
" F. W. Potter,* Smithville.
" J. F. Harrell,* Whiteville.
" W. P. Exum,* Wayne County.
" D. Stuart Lyon, Charlotte.
" A. M. Lee,* Clinton.
" J. R. McClelland, Mooresville.
" Peter McLean, Shoe Heel.
" Richard J. Noble,* Selma.
" Wm. H. H. Cobb,* Goldsborough.
" J. H. Tucker, Henderson.
" C. G. Bryant, Rich Square.
Dr. E. H. Hornaday,* Willow Green.
" Paul B. Barringer, Dallas.
" I. Wellington Faison,* Fulton.
" John A. Pollock, Kinston.
" A. W. Knox,* Raleigh.
" W. H. Moore,* Goldsborough.
" John W. Smith, Reidsville.
" C. C. Peacock, Wilson.
" D. A. Cheek, Greensborough.
" J. A. McLean, McLeansville.
" J. G. Ector, Friendship.
" Hubert Haywood,* Raleigh.
" James M. Covington,* Rockingham.
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" W. R. Hollingsworth, Mt. Airy.
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" W. L. Abernethy, Hickory.
" John Chapel Walton, ———.
" J. M. Tomlinson, Bush Hill.
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" T. Eugene Balsley, Greensborough.
" B. G. Harris, High Point.
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HONORARY MEMBERS.

Dr. W. T. Howard, Baltimore, Md.
" Otis F. Manson, Richmond, Va.
" R. H. Dillard, Edenton, N. C.
Dr. F. D. Lente, Cold Springs, N. Y.
" John H. Hill,* Goldsborough, N. C.
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OFFICIAL LIST OF CANDIDATES LICENSED BY THE STATE BOARD OF MEDICAL EXAMINERS.

The Board of Medical Examiners of the State of North Carolina, met in the city of Wilmington, May 10th, 1880, and remained in session five days. Thirty-three applicants presented themselves for examination. Twenty-six were found duly qualified, and were accordingly licensed to practice medicine and surgery in North Carolina, to-wit:

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Materia Medica and Therapeutics.—Dr. T. D. Haigh.
Practice of Medicine and Pathology.—Dr. Thomas F. Wood.
Anatomy.—Dr. Joseph Graham.
Physiology.—Dr. Richard H. Lewis.
Surgery.—Dr. H. T. Bahnson.

HENRY T. BAHNSON,
Secretary Board Med. Examiners of North Carolina.

SALEM, N C., May 21st, 1880.

PELVIC CELLULITIS.*

By Thomas J. Moore, M. D., Charlotte, N. C.

Gentlemen of the Medical Society of North Carolina:

At the last meeting of this Society, held at Greensborough, through your Committee, I was notified of my appointment as essayist for the next meeting to be held at this time and place.

In compliance with that appointment I appear before you to-day, and in the commencement of this paper, I trust that I may be pardoned, for asking at your hands a patient hearing and lenient criticism. In conning over in my mind the various subjects, which I felt might be of interest to the Society, I could think of none that would prove more practical in its nature than that of pelvic cellulitis in the female, as it is the most important and common, by far, of all the diseases with which woman is afflicted. In order to avoid a tiresome repetition I beg leave, before commencing upon my subject, to acknowledge my indebtedness to to the works of Professors Kolb, of Vienna; Schrœder, of Bavaria; Thomas, Simms and Barker, of New York; and to the treatise on Gynæcology by the erudite and accomplished scholar, Dr. Thomas Addis Emmet, of the same city.

Like the majority of the diseases of the human system, this disease came under observation and excited the attention of some of the earliest writers, and while it was crudely described and ill-defined, yet, it was given a prominent place in the works of Archigenes, an author of the 2d century, Oribasius of the 4th, Aëtius and Parel, of Aëgina, in the 6th and 7th. Turning from the writers of the past, to those of more modern times, we find the literature of the profession, rich with the productions of the various authors, from the time of Richard Wiseman, of England, who, in 1679, described the disease as "Distempers of the Uterus in Childbed," down to the authors of the present day.

As to the particular name which should be given to the disease, as well as its location, and the parts involved, the widest difference of opinion exists, both in this country and across the water. The disease with which it is most generally associated, and with

*Essay delivered before the North Carolina Medical Society held at Wilmington, N. C., May 11th to May 14th, 1880.

which it is most likely to be confounded, pelvic peritonitis, has given rise to two schools of medicine, as it were, and we find it named, arbitrarily, as the particular author happens to view the subject, from a pathological standpoint. Its synonymes are peri-metritis, para-metritis, peri-uterine phlegmon, inflammation of the broad ligaments, pelvic cellulitis, pelvic abscess, acute purulent œdema in the connective tissue of the plevis, the latter so called by Pirogoff.

Under the two first names the schools have virtually arrayed themselves: in France we have Bernutz, Goupil, and Arran, with Schrœder, of Germany, insisting that the inflammation excited in the pelvis, and what the English and Americans style pelvic cellulitis, is peri-metritis, or pelvic peritonitis, while pelvic cullulitis, is a rarer disease, one of a lower grade of inflammation, and generally confined to the puerperal state. On the other hand, Nonat and Virchow, with Simpson, of England, hold almost diametrically, the opposite view: recognizing the disease in question as a genuine cellulitis, the two former give to it the name of para-metritis, the latter that of cellulitis. In America, Professor Thomas styles it peri-uterine cellulitis, and evidently draws a sharp anatomical line between pelvic peritonitis and pelvic cellulitis, while Dr. Emmet and Professor Barker consider these two diseases, as almost invariably associated, and that they should be named as the leading characteristics of the one predominate over those of the other. The disease which we are endeavoring to describe is true pelvic cellulitis—a genuine phlegmon of the cellular tissue of the pelvis, restricted to the female, and more especially to that portion of the cellular tissue surrounding the organs contained in the pelvis, and it frequently, if not generally, has as a complication limited pelvic peritonitis. In considering the relation of parts in this region, we are struck with *two* leading anatomical features, the manner in which the peritoneal and cellular tissues are arranged. Commencing with the former, we find, that after extending along the abdominal parieties, it is reflected upon the posterior portion of the bladder, thence over the anterior three-fourths of the uterus, the fundus and whole of the posterior portion, the upper fourth of the vagina to the rectum, and from thence becomes continuous with the posterior abdominal section, covering the spine: as this tissue

the more important matters under these topics. The success of the pamphlet was so great that a large edition was exhausted.

Professor Wm. Cain, Civil Engineer, and member of the Board was requested to continue the subject which he did in a pamphlet of thirty pages.

LIMITATION AND PREVENTION OF DIPHTHERIA.

At the request of your Secretary, Dr. R. L. Payne, of Lexington, member of the Board, contributed an essay on the *Limitation and Prevention of Diphtheria.* This was deemed urgently necessary as this scourge was prevalent in many counties, causing in some instances panics in whole communities. A large edition of this pamphlet was exhausted within a month after its issue.

In the meantime Professor William Cain's pamphlet on

SANITARY ENGINEERING

was exhausted and applications were coming in daily for it. At my request, Mr. Cain kindly consented to re-write the essay, and a second edition enlarged to 90 pages was issued. In all parts of the State, these pamphlets on elementary sanitary subjects were well received, and we believe the teaching inculcated will bring very many of our people to consider the necessity of a general sanitary movement.

A YEARLY COLLECTION OF STATISTICS.

We must not let an opportunity pass to glean the crop of vital statistics, and having this item in view your Secretary recommends that we attempt to have a law covering the following points enacted by the next Legislature.

Every citizen listing his taxes shall give the following items on the same blank furnished for his tax-list:

1. Number of marriages in the family since last assessment.
2. " " births " " " " " "
3. " " deaths " " " " " "

This can be easily done, and although there are many chances of error, it is better than anything we have yet devised.

It is, furthermore, desirable that material changes be made in our law, and your Secretary suggests that a committee from the Board attend the next Legislature and ask that the needed changes be made.

The compensation of the County Superintendent of Health should be the usual rates allowed to physicians in the several counties according to the prevailing custom, and at the discretion of the Board of County Commissioners.

All these items can be arranged on the spot more satisfactorily, as soon as the temper of the Legislature be ascertained.

I have laid before this body an outline of the work of the North Carolina Board of Health, by the request of the Board, recognizing as we do that as an auxiliary body, created by you and responsible to you, to show how great a work we have before us, and how much we need the help of every doctor, and the the undivided support of the Medical Sooiety of North Carolina.

Respectfully submitted,

THOMAS F. WOOD,

Secretary N. C. Board of Health.

RESOLUTIONS ENDORSING THE NORTH CAROLINA BOARD OF HEALTH.

WHEREAS, The General Assembly of the State of North Carolina at its last regular session passed a bill entitled an act supplemental to an act creating the State Board of Health.

Resolved, That the Medical Society of the State of North Carolina, in convention assembled, cheerfully endorse the objects contemplated in said bill, and regard it as a wise and patriotic scheme for the public good, wholly consistent with the wants of our advancing civilization, and that in enacting this law, our law-makers were possessed of genuine patriotism, and an honest effort by protecting the public health, and the publication of our health bulletins abroad, to invite immigration to and build up the material interests of the State.

Resolved, That the opinion of the State Medical Society unites with that of the President and Secretary of the State Board of Health whose positions have enabled them to witness its workings, that the present law liberal in its provisions for the care of our sick in jails, and poor houses, for the prevention of epidemics, and the invasion of diseases dangerous to to the public health, is still imperfect and would be more efficient and operative if properly amended.

Resolved, That the Secretary of this Society be instructed to furnish the President of the State Board of Health with a copy of these resolutions with the permission of using this endorsement in his next annual report to the Governor.

After an animated discussion as to the place of meeting, Asheville was selected, and the last Tuesday in May as the time.

BOARD OF EXAMINERS.

Dr. Haigh announced that Dr. Robert I. Hicks having removed to Virginia, had tendered his resignation as a member of the Board of Examiners and that Dr. Richard H. Lewis, of Raleigh, had been elected in his place.

Dr. John McDonald, of Washington, was announced as essayist.

Dr. C. Tate Murphy offered a resolution thanking Dr. Grissom for the able address delivered by him, and requesting a copy for publication. Carried.

Dr. John McDonald offered a resolution of thanks to the citizens of Wilmington for their generous hospitality. Carried.

Dr. L. J. Picöt offered a resolution of thanks to the railroads for their liberality in passing delegates for half fare.

Society adjourned to meet in Asheville on the last Tuesday in May, 1881.

J. F. SHAFFNER, M. D., President.

L. JULIEN PICÖT, M. D., Secretary.

The following is a complete list of

NEW MEMBERS FOR 1880—RECAPITULATION.

Dr. Richard Dillard, Jr., Edenton.
" V. St. Clair McNider, Jackson.
" L. M. Powers, Plymouth.
" W. C. Galloway, Snow Hill, Green Co.
" K. J. Powers, Camera, Pender County.
" J. McQ. Stansill, Rockingham.
" J. T. Schonwald, Wilmington.
" R. H. Adams, Gastonia.
" L. W. Hunter Charlotte.
" W. K. Anders, Gravel Hill.
" N. B. Herring, Toisnot.
" M. W. Hill, Statesville.
" E. T. Speed, Tarborough.
" L. Hussey, Warsaw.
" W. P. Mercer, Toisnot.
" H. S. Norcom, Wilmington.
" Ed. De La Rose King, Wilmington.
Dr. S. J. Montague, Winston.
" J. L. Nicholson, Richlands, Onslow co.
" John Whitehead, Salisbury.
" T. W. Harris, Chapel Hill.
" H. T. Ivy, Fayetteville.
" A. B. Huntley, Wadesborough.
" D. B. Frontis, Lexington.
" J. A. Collins, Enfield.
" C. M. Pool, Salisbury.
" John Irwin, Villa Franca.
" G. H. West, Newton.
" G. E. Matthews, Ringwood.
" T. S, Burbank, Wilmington.
" Thomas Hill, Salisbury.
" J. C. Shepard, Scott's Hill.
" R. A. Hanser, Tobaccoville.

REVISED ROLL

Of Members in the Order in which they Signed the Constitution.

Those marked * were present at last meeting. Marked (D) denotes deceased.

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Dr. E. Strudwick, (D) Hillsborough.
" N. J. Pittman,* Raleigh.
" J. B. Jones, Charlotte.
" R. B. Haywood,* Raleigh.
" Jas. A. McRae,* Fayetteville.
" Jas. B. Dunn, Raleigh.
" Will. Geo. Thomas,* Wilmington.
" S. S. Satchwell,* Rocky Point.
" J. R. Mercer, Tarborough.
" E. B. Haywood, Raleigh.
" Jas. P. Bryan, Kinston.
" A. B. Pierce, Halifax.
" H. W. Faison,* Faison's Depot.
" Allman Holmes,* Clinton.
" E. A. Anderson,* Wilmington.
" C. T. Murphy,* Clinton.
" Hugh Kelly,* Statesville.
" F. M. Henderson,* Concord.
" J. J. Summerell,* Salisbury.
" P. E. Hines, Raleigh.
" M. Whitehead, Salisbury.
" J. G. Ramsay, Rowan Mills.
" R. H. Winborne, Edenton.
" J. K. Hall, Greensborough.
" Geo. A. Foote,* Warrenton.
" Eugene Grissom,* Raleigh.
" R. L. Payne,* Lexington.
" F. M. Rountree,* Snow Hill.
" W. A. Collett, Morganton.
" E. F. Ashe, Wadesborough.
" D. B. Woods, Rowan Mills.
" Charles J. O'Hagan,* Greenville.
" W. A. B. Noreom, Edenton.
" J. F. King, (D) Wilmington.
" J. W. Jones, Tarborough.
" J. F. Long,* Washington.
" John K. Ruffin, Wilson.
" C. W. Knight, Tarborough.
" J. B. Hughes, New Berne.
" W. W. Gaither,* Lenoir.
" J. C. Gidney, Shelby.
" William Little, (D) Raleigh.
" Wm. R. Wood, Scotland Neck.
" J. H. Hicks, Faison.
" M. T. Savage, Scotland Neck.
" Thomas F. Wood,* Wilmington.
" Thomas C. Powell, Rocky Mount.
" Franklin Hart, Tarborough.
" Geo. L. Kirby,* Goldsborough.
" L. A. Stith, Wilson.
" J. F. Shaffner,* Salem.
" W. T. Cheatham, Henderson.
" Robert I. Hicks, Williamsborough.
" Elisha Porter,* Rocky Point.
" Walter Debnam, Earpsborough.
" F. J. Haywood, Raleigh.
" C. R. Barron, Toisnot.
" B. P. Alston, Warrenton.
" G. G. Smith, Concord.
" D. N. Patterson, Mangum.
" Joel G. King, Warrenton.
" J. B. Sugg, Tarborough.
" H. T. Bahnson,* Salem.
" Geo. N. Ennett, Saunders' Store.
" Chas. Duffy, Jr., Newbern.
" W. W. Lane,* Wilmington.
" R. L. Cowan, Rowan Mills.

Dr. R. F. Lewis,* Lumberton.
" James S. Robinson, Elizabeth.
" W. J. Love,* Wilmington.
" J. C. Walker,* Wilmington.
" James McKee, Raleigh.
" L. L. Alexander, New Hanover Co.
" Willis Alston,* Littleton.
" W. J. H. Bellamy,* Wilmington.
" Geo. F. Lucas, Point Caswell.
" Walter Brodie, Whittaker's.
" A. S. Jones, Warrenton.
" H. Otis Hyatt, Kinston.
" J. L. Knight, Tarborough.
" C. S. Killebrew, Tarborough.
" W. T. Ennett,* Rocky Point.
" D. McL. Graham,* Wallace.
" W. I. Royster, Raleigh.
" G. Gillett Thomas,* Wilmington.
" V. N. Seawell,* Wallace.
" Geo. S. Attmore, Newbern.
" S. B. Flowers, Mt. Olive.
" P. W. Young, Oxford.
" John McDonald,* Washington.
" Francis Duffy, Newbern.
" L. L. Staton,* Tarborough.
" T. B. Germon, Ridgeway.
" A. G. Carr,* Durham.
" John A. Allison, Statesville.
" J. B. Gaither, Salisbury.
" J. M. Hadley, La Grange.
" W. G. Johnson, Farmington.
" W. J. McLinden, Wadesborough.
" Josh. W. Vick, Selma.
" Isaac C. Green, Warrenton.
" P. L. Murphy, Wilmington.
" Joseph Graham,* Charlotte.
" J. M. Miller, Charlotte.
" J. L. Henderson, Mt. Pleasant.
" J. R. Wilson, Harris' Depot.
" J. S. Blair, Harris' Depot.
" J. F. Miller, Goldsborough.
" S. J. Alexander, Randalsburg.
" H. K. DeArmand, Pineville.
" J. P. McCombs, Charlotte.
" O. P. Houston, Mt. Ulla.
" S. J. Gilmer, Concord.
" John Fink, Concord.
" W. H. Lilly,* Concord.
" Thomas J. Moore,* Charlotte.
" E. S. Foster, Louisburg.
" A. A. Hill, Lexington.
" J. H. Baker,* Tarborough.
" J. B. Hall, Scotland Neck.
" J. M. Richardson, Lincolnton.
" T. D. Haigh,* Fayetteville.
" Alex. Montague.
" L. J. Picôt,* Littleton.
" David N. Sills, Castalia.
" John A. Drake, Battleborough.
" W. C. Murphy,* South Washington.
" W. J. Cooke,* Louisburg.
" E. J. Thorpe, Rocky Mount.
" Joshua Taylor, Williamston.
" D. W. Bullock, Tarborough.
" W. H. Whitehead, Battleborough.
" C. W. Eagles,* Sparta.
" R. A. Sills, Nashville.

Dr. R. H. Speight,* Tarborough.
" C. E. Moore,* Battleborough.
" H. G. Land, Poplar Branch.
" R. J. Grimes, Robersonville.
" W. C. McDuffie,* Fayetteville.
" B. W. Robinson, Fayetteville.
" P. S. Peteway, Enfield.
" Henry Tull, Kinston.
" A. V. Budd, Egypt.
" R. R. Robeson, Kyles' Landing.
" M. J. DeRosset, New York City.
" W. A. Murdock, Mt. Ulla.
" James W. McNeill,* Fayetteville.
" J. D. McMillan, Lumberton.
" W. H. McKinnon, Fayetteville.
" Jos. Hollingsworth, Mt. Airy.
" Robert W. Glenn, Greensborough.
" Beverly Jones,* Forysthe County.
" Adam E. Wright, (D) Wilmington.
" Nat. S. Henderson, Pelham.
" Jeff. Scales, Reidsville.
" Geo. W. Long, Graham.
" Richard H. Lewis,* Raleigh.
" Geo. W. Graham, Raleigh.
" Preston Roan, Winston.
" J. D. Roberts,* Magnolia.
" L. H. Hill* Germantown.
" W. W. Wilhelm, Mooresville.
" W. R. Wilson, Townesville.
" E. Nelson Booker, Clayton.
" N. S. Siewers, Salem.
" L. G. Hunt, Huntsville.
" Jas. E. Griffith, Clemmonsville.
" W. P. Mallett,* Chapel Hill.
" H. M. Alford,* Greensborough.
" F. W. Potter,* Smithville.
" J. F. Harrell,* Whiteville.
" W. P. Exum,* Wayne County.
" D. Stuart Lyon, Charlotte.
" A. M. Lee,* Clinton.
" J. R. McClelland, Mooresville.
" Peter McLean, Shoe Heel.
" Richard J. Noble,* Selma.
" Wm. H. H. Cobb,* Goldsborough.
" J. H. Tucker, Henderson.
" C. G. Bryant, Rich Square.
Dr. E. H. Hornaday,* Willow Green.
" Paul B. Barringer, Dallas.
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HENRY T. BAHNSON,
Secretary Board Med. Examiners of North Carolina.

SALEM, N. C., May 21st, 1880.

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By Thomas J. Moore, M. D., Charlotte, N. C.

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Like the majority of the diseases of the human system, this disease came under observation and excited the attention of some of the earliest writers, and while it was crudely described and ill-defined, yet, it was given a prominent place in the works of Archigenes, an author of the 2d century, Oribasius of the 4th, Aëtius and Parel, of Aëgina, in the 6th and 7th. Turning from the writers of the past, to those of more modern times, we find the literature of the profession, rich with the productions of the various authors, from the time of Richard Wiseman, of England, who, in 1679, described the disease as "Distempers of the Uterus in Childbed," down to the authors of the present day.

As to the particular name which should be given to the disease, as well as its location, and the parts involved, the widest difference of opinion exists, both in this country and across the water. The disease with which it is most generally associated, and with

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which it is most likely to be confounded, pelvic peritonitis, has given rise to two schools of medicine, as it were, and we find it named, arbitrarily, as the particular author happens to view the subject, from a pathological standpoint. Its synonymes are peri-metritis, para-metritis, peri-uterine phlegmon, inflammation of the broad ligaments, pelvic cellulitis, pelvic abscess, acute purulent œdema in the connective tissue of the plevis, the latter so called by Pirogoff.

Under the two first names the schools have virtually arrayed themselves: in France we have Bernutz, Goupil, and Arran, with Schrœder, of Germany, insisting that the inflammation excited in the pelvis, and what the English and Americans style pelvic cellulitis, is peri-metritis, or pelvic peritonitis, while pelvic cullulitis, is a rarer disease, one of a lower grade of inflammation, and generally confined to the puerperal state. On the other hand, Nonat and Virchow, with Simpson, of England, hold almost diametrically, the opposite view: recognizing the disease in question as a genuine cellulitis, the two former give to it the name of para-metritis, the latter that of cellulitis. In America, Professor Thomas styles it peri-uterine cellulitis, and evidently draws a sharp anatomical line between pelvic peritonitis and pelvic cellulitis, while Dr. Emmet and Professor Barker consider these two diseases, as almost invariably associated, and that they should be named as the leading characteristics of the one predominate over those of the other. The disease which we are endeavoring to describe is true pelvic cellulitis—a genuine phlegmon of the cellular tissue of the pelvis, restricted to the female, and more especially to that portion of the cellular tissue surrounding the organs contained in the pelvis, and it frequently, if not generally, has as a complication limited pelvic peritonitis. In considering the relation of parts in this region, we are struck with *two* leading anatomical features, the manner in which the peritoneal and cellular tissues are arranged. Commencing with the former, we find, that after extending along the abdominal parieties, it is reflected upon the posterior portion of the bladder, thence over the anterior three-fourths of the uterus, the fundus and whole of the posterior portion, the upper fourth of the vagina to the rectum, and from thence becomes continuous with the posterior abdominal section, covering the spine: as this tissue

becomes reflected it forms folds and ligaments. These reflections serve to retain the organs in position, and also act as a general covering to the whole of this section. The broad ligaments, its reflections from either side of the uterus, contain the Fallopian tubes, the ovaries with their ligaments, the round ligaments, the nutrient vessels and nerves, and a limited number of scattered fibres. Its falciform folds, seen in the interval that separates the bladder from the uterus, are called vesico-uterine or anterior ligaments : then we have Douglas' cul de sac, formed, by the reflection of peritoneum from uterus and vagina to rectum, and limited on either side by the recto-uterine ligaments, the marginal reflections of peritoneum, from the uterus to the rectum.

Now having found where the roof of our structure is, let us examine what lies beneath it of importance to us; in every direction from above downward, from side to side, wherever we have not space occupied by the contained organs, we find cellular tissue, between the bladder and uterus, and uterus and rectum above, about the vagina and rectum below, we find this cellular tissue : this tissue which in filling up interspaces and surrounding parts, from its remarkable elasticity, serves to act as a resistant to either pressure or shock, let it come from whatever direction it may. It differs from the ordinary connective tissue in having a larger proportion of yellow elastic fibre, than is generally found in connective tissue in other parts. It lies between the folds of the broad and other ligaments, serving to retain the proper relation of parts. Its remarkable elasticity, renders it capable of meeting the requirements of the organs and tissues it surrounds and connects. The blood-vessels and nerves which are more numerous in this section than in any other part of the body, course through it in various directions, doubling time after time upon themselves, and thus nature which is never lavish, but always provident, enables by this tortuosity on the one part, and elasticity upon the other, these various vessels, to adapt themselves to any situation in which they may be placed, by the relative disarrangement of the organs, the one to the other, as in uterine displacements, or in the ascent of the uterus during pregnancy. Inflammation of this connective tissue in the female, is generally, as before stated, classed on this side of the water, as pelvic cellulitis, and while I am aware that some of

our most able writers, insist upon drawing a sharp line between cellulitis on the one hand, and pelvic peritonitis on the other, I do not believe that we ever have either of these diseases fully developed without involving, to a certain extent, the tissue of the other. We are met, however, by this theoretical obstacle, that general peritonitis is often found without involving the pelvic portion, but while this is true, it was only by clinical and autopsical observation that this fact was elucidated; in the same manner it has been ascertained, that anything like marked cellulitis, involves the peritoneum, as in pneumonia, when the superficial portion of any section of the lung is affected, invariably, an inflammatory effect is produced upon the corresponding pleura, so with the cellular tissue: wherever inflammation affects the connective tissue of the broad ligaments, or those of the utero-sacral, it is liable to make a marked inflammatory impression upon the regional peritoneum of these parts. This is the view taken by Drs. Emmet and Barker, who boldly avow their inability to make a differential diagnosis between the diseases at the bed-side. This disease appears to have peculiar places of election, and while it may become general, and involve the whole of the connective tissue in the pelvis, such is rarely the case, and when this condition of affairs exists, the original malady, has been found to have started in some one of its usual points of election. In one or the other of the broad ligaments, upon its posterior face, near the cervix, in the majority of cases the left, we find is the usual point of attack. Next, in point of election, comes the cellular tissue connecting the vagina and rectum, generally upon the right side, and implicating, the right utero rectal ligament; occasionally it is found between the base of the bladder and uterus, or between the bladder and abdominal parieties. While it is true that cellulitis generally involves the peritoneum, we occasionally meet with circumscribed cases, where the symptoms have been so mild, as to fail to excite the attention of either the practitioner or patient, and in physical exploration, by accident as it were, it has been stumbled upon. Lisfranc discovering certain circumscribed tumors in immediate contact with the womb, came to the conclusion that they were partial parenchymatous metritis, which had resulted in enlargement of a part of the organ. Monsieur Monat, however, in 1849, in his investigations arrived at a contrary opinion,

and declared, that he believed them to be circumscribed inflammation of the connective tissue, immediately around the uterus, between the cervix and rectum, the cervix and bladder, and immediately by the side of the neck. Professor Thomas is disposed to cavil at the conclusions of the latter, as he has only been able to find in two reported cases, an account of so limited a cellulitis, one by M. Demarquay, the other by M. Simon. Cellulitis may be said to have three stages, the first, as in other inflammations, being that of congestion, the second that of effusion, and if at this time, resolution does not take place, the third stage, that of suppuration, follows. The disease may be arrested in any of its stages, being in all respects, a genuine phlegmon, going through all of its various stages like inflamed connective tissue, in other parts. After suppuration we may have a fourth stage, that of pelvic abscess; unless we have that condition of affairs taking place, as described by Kolb, in his treatise on "Pathological Anatomy of the Female Sexual Organs," where he says, "Purulent collections, encysted by proliferation of peritoneal connective tissue, and where a considerable amount of pus collects, between adherent intestines, and in encysted portions of the peritoneum; pus thus encysted, may become harmless, from fatty degeneration, and may undoubtedly be absorbed or transformed into a whitish fatty pulp, mixed with calcareous salts."

While these remarks are intended to apply when the abscesses are surrounded, wholly by, either peritoneal, or adventitious tissue, I take it for granted that the same rule holds, whether the pus be surrounded by the tissue as above described, or by any other tissues, and, therefore, would be true of abscesses of the cellular tissue as well; for even here these abscesses are generally covered by peritoneum. When suppuration takes place in either of the broad ligaments, the ovaries are often found embedded in pus, and sometimes the integrity of their own structure is involved, and the Fallopian tubes are also found implicated, frequently filled with pus, or constricted at their uterine and ovarian extremities, and filled with sero-purulent material, constituting what is called tubal dropsy. Professor Thomas cited fourteen cases from reports of Monat, West, McClintock, M. Demarquay, M. Simon, Aran and Bourdon, setting forth the seat of purulent collections in the cellular tissue, as ascertained by post-mortem; but two cases presented instances of cellu-

litis, where the diseases failed to involve the cellular tissue, the broad ligaments, ovaritis, and tubes. One of these proved to be even doubtful, for while an abscess in the cellular tissue existed, another was discovered in the cul de sac of Douglas. It is a muted point, what gives rise to these purulent collections, as the cellular tissue, of course, must be the chief seat of the collection of pus, and often, especially when the broad ligaments are involved we find the ovaries, Fallopian tubes, as well as the lining membrane of the uterus—all more or less inflamed, the question naturally arising whether some one of these organs, or all, as the case may be, have not been the original seat of the inflammation, or whether they have not been implicated in a secondary manner. It has been asserted with much emphasis, by some of the most eminent authors of our day, that inflammation can never arise, primarily, in the cellular tissue, but is invariably a secondary affection : hence the deduction naturally follows, that the disturbing influence, lies in the uterus, ovaries or Fallopian tubes, while, as we shall see further on, when we come to consider the etiology of this disease, the exciting causes of cellulitis, are numerous and varied. Yet it seems but rational to concur with Dr. Emmet in his view of the question, that invariably the disturbing element, in the non-puerperal cases, acting directly through the sympathetic system, results in such local disturbance, as to derange nutrition, and cause those parts to become affected, which from their anatomical and physiological relations, would be the most likely to be involved, the pelvic connective tissue. All of the organs contained in the pelvis are entirely dependent, both for the blood that supplies them, and the nerves that preside over them, to the conducting support of this connective tissue, the blood that returns from them traveling the same road, and as we well know how tortuous and numerous all of these vessels are, is it not reasonable to suppose that disturbing influences would first make themselves felt here, instead of having to travel a long and varied track, to make a more distant impression ? How readily, venous congestion can be brought about in this quarter ! And why may not this be the leading feature in those local disturbances, which in the end, culminate in this malady ? While the disturbing influences, centre their forces in the non-puerperal cases, directly in the cellular tissue, in those cases arising from the puerperal condi-

tion, the contrary exists. The part, the connective tissues here plays, is purely secondary, to the uterine disturbance: the cellular inflammation often continuing, after all evidence of the puerperal disease has disappeared, as in laceration of the neck in childbirth, or abortion, where it has rapidly healed, and then the continuing cellulitis may give rise to pathological disturbances, acting secondarily on the uterus, and thus producing various uterine diseases. It has been asserted that metritis is frequently the cause of cellulitis; while this is often true in regard to this condition in the puerperal, it is equally true, as asserted by both Drs. Thomas and Emmet, that metritis never occurs in the non-puerperal woman, as neither inflammation or pus, has ever been found in the uterine tissue except in childbirth, or where malignant disease has been ascertained to exist.

It has often been asserted that ovaritis, frequently gives rise to cellulitis. Dr. Emmet, however, states that he has never seen ovaritis, without inflammation of the neighboring tissues, and where he has been called in early, he has always detected the cellulitis before the ovary became involved. So far as the Fallopian tubes are concerned, except in cases of poisoning by gonorrhœa, or some other virulent poison exciting inflammation of its mucous membrane, it is invariably secondary to some previous lesion in the cellular tissue.

Etiology of Cellulitis.—It will become evident from a casual observation, that for convenience of description, the causes of this disease should be divided into those arising in the puerperal, and the non-puerperal condition. By far the majority of cases are produced in the former state, owing to the peculiar vascular condition of the uterus, as well as those accidents to which females are liable in this condition. Over two-thirds of all the reported cases of the disease, have been attributed to parturition and abortion. In childbirth, the laceration of the cervix, either partial or complete, may produce such an impression on the connective tissue as to light up the disease; contusions, owing to undue pelvic proportion to the child's head, as in rickets or rachitis, when we have the conjugate diameter shortened; in the kyphotic pelvis where the reverse in the disproportion of the diameters to that of rachitis exists. The same difficulties arise in the osteomalacic pelvis, in the spondylolisthelic

pelvis, in Nægele's obliquely distorted pelvis. They all present obstacles to labor, rendering it difficult, painful and prolonged, and often impossible, without instrumental interference, and in all we have that condition of affairs which may light up the disease. Hydrocephalus in the child, an unusually large head, a mal-position as to presentation of part, the lodging of the head, for hours, at some one point, turning, and other manual interference, either at the neck or within the womb, a rigid os, a delivery by instruments, are all capable, if not liable to produce it. The same condition of affairs may be brought about, either in premature labor or abortion, by violence done the neck ; after labor, either the special poison of puerperal fever, or its epidemic and atmospheric influences in hospitals or cities, may induce it. Metritis, endometritis, and especially phlebitis, as set forth by Dr. Matthews Duncan, may all evidently produce it. That phlebitis can produce it, is not only asserted by Dr. Emmet, but has been actually proved by him, in the dead house. That the connective tissue is always involved to a limited extent, in phlebitis, he concedes, but in this special form, arterial congestion of a marked type, exists, and the inflammation is invariably more decided. Extra uterine pregnancy is another existing cause. Too early rising from bed, cold contracted during the lying-in state, imprudence in standing too long, attempting to walk too early, over-exertion of any kind, too early or violent copulation, may all give rise to it. In the non-puerperal state, we find a broad field to search in, and a large number of diseases, to arraign, for this cellular sin. In all of the surgical operations, upon the uterus, where we have as a result, irritation or inflammation, we run the risk of producing cellulitis ; slitting the neck to overcome obstructions produced by flexures, amputation of the cervix, the introduction of the sound or probe, applications of an alterative character, such as iodine, per sulphate of iron, etc., it matters not how delicately they may be made, under certain conditions, will cause it. Injections of simple hot water, or medicated, when by accident thrown into the undilated uterus, give rise to this disease, by the escape of the fluid through the Fallopian tubes into the tissue. Sponge tents, however guardedly they may be used, or how often the patient may have escaped in previous applications, will suddenly light it up, and when least expected. This most probably

arises from the abrasion or destruction of the mucous membrane, and the absorption of septic matter. It is almost superfluous to allude to a badly fitting pessary, as a cause, whether it be a uterine stem, or a vaginal one. The stem pessary when used to correct a flexure, though from a mechanical stand point, would seem admirably adapted to the desired end, yet, when placed in the uterus, an organ of such delicate sensibility, it becomes an instrument of danger, more likely to excite marked inflammation, with accompanying cellulitis, and often peritonitis, than to correct the mechanical displacement. When prolapse of the uterus takes place, if not corrected in time, it will produce so much irritation, by traction upon the utero-rectal ligaments, as to light up cellulitis, and this is one of the reasons why the cellular tissue of these ligaments becomes so often involved ; the same forces being brought into play into retro-version, we are liable to have similar results, and when we have retro-flexion superadded to the version, we can almost always feel assured that the flexion has been brought about by inflammation of cellular tissue, and the ligaments of the uterus, with a subsequent contraction of these ligaments. To ante-version, under certain circumstances, we may lay the charge of producing this disease : a relative degree of ante-version may be considered, normal, to the uterus, at puberty, at least such is the conclusion arrived at by our most experienced observers, and all the functions of the uterus, can be properly performed without pain, unless marked deflection in this direction exists. Whenever we have vesical tenesmus and irritation, we may rest assured, that the neck of the bladder, is undergoing a certain amount of traction, either from the settling down of the uterus into a state of partial prolapse, or an exaggeration of the version has taken place, and the neck of the uterus being carried upwards and backwards produces traction of the anterior wall of the vagina, and in this way acts upon the neck of the bladder. Under either of these conditions of the uterus, owing to the interference produced by obstructing the circulation, and the amount of traction, brought to bear upon the ligaments, coupled with the vesical irritation, an attack of cellulitis may be produced by the least exposure, or imprudence upon the part of the woman. Where we have ante-flexion, and the uterus descends from overweight, owing to either hypertrophy or

congestion, we may consider the connective tissue, as being constantly liable to take on inflammation, especially during the menstrual period, or from any undue exposure on the part of the patient. Where lateral versions are found to exist, a careful examination into the history of the cases, will generally show that the patients have suffered from an attack of cellulitis, at a period, more or less remote, and the version will be found, upon the side of the uterus, which was the region of attack. Lateral versions may be truly considered, primarily, as one of the results of cellulitis, and never a cause, the version being brought about by a subsequent contraction of the affected parts; but, after the establishment of the version, it may be the means of lighting up subsequent attacks of cellulitis. Lateral flexures are believed to be caused, by the shortening of the broad ligament, upon the side where the version exists, and this shortening is produced by inflammation in the ligament of that side, caused by the previous existence of either ante or retroversion. Other exciting causes in the non-puerperal state, such as rupture of cysts, the escape of any foreign body, either into the cavity of the peritoneum, the rupture of a blood-vessel or vessels, are all calculated to produce, both pelvic peritonitis and cellulitis.

Professor Emmet has constructed a number of tables, setting forth, the supposed causes of cellulitis, its complications, its effect upon the menstrual function and its attending results. From them I gather, that of the total number of cases, reported by him (303), over fifty-one per cent. could not be traced to an assignable cause; the remaining cases suffered, from other lesions, in addition to cellulitis. From an examination of his patients, where no uterine disease could be detected, they expressed the following opinion as to the existing cause. The greater number of unmarried, traced their disease to exposure and imprudence in dress; a large per centage of the sterile, attributed their condition, to the married state; the fruitful woman had suffered since the termination of pregnancy. It is a melancholy fact, but never the less true, that a large per centage of his patients confessed, to the submission to criminal abortion, a practice which appears to be on the increase, at the present time, as additional facilities are presented in our larger towns and cities, where advertising experts proffer for a consideration their aid, to those who may desire it, and where every facility

is offered for the concealment of the crime. The efforts at preventing conception are even more common, and the means resorted to, rarely fail, to inflict upon these would be avoiders of maternal responsibility, that just retribution, which nature almost invariably visits upon those who attempt to thwart the harmony of her laws. The sewing machine is justly burthened with a relative proportion of sufferers; where uterine disease exists, and during the menstrual period, a total avoidance of its use is the only safe rule. Amongst the diseases reported, as complications, fifty-four per cent. are attributed to uterine displacements, while lacerations of the cervix, come next on the list, and the latter disease is considered as directly causative of repeated attacks in the same individual. Menstruation after cellulitis, presents a variety of phases, and from statistics furnished, no definite law can be observed. Sterility is a common sequel of cellulitis, and the tables before referred to, are full upon this subject—in all of the cases it has been my misfortune to treat, this proved to be the rule, all being barren from the time of marriage, save one, a primapara, and her attack followed within a few days after parturition.

Prognosis.—It is impossible to predict what are to be the results of cellulitis, when called to the bedside, the disease appears to be as capricious in its character as the causes giving rise to it are numerous and varied. The extent of tissue involved offers no criterion by which to judge: frequently we find after parturition, an extensive cellulitis, rapidly disappear, while, upon some other occasion, an apparently, inconsiderable attack will linger for months or years; and the same may be said of cases which have their origin in the non-puerperal state. There is one condition of the uterus, which appears to be singularly unfortunate in having it as a complication, the cellulitis often proving obstinate in duration, and frequently being the means of producing repeated attacks. I refer to lacerated cervix, either partial or complete, and here the opportunity presents itself to the physician, of not only accomplishing much, in the way of alleviating the malady, but frequently of bringing about a permanent cure, by judicious surgical interference, after the manner described by Dr. Emmet in his article styled, "Laceration of the Cervix." So far as the involvement of life is concerned, the prognosis is generally favorable; in cellulitis, after

parturition, we should remember, however, the liability to general peritonitis, which should cause us to be somewhat more guarded in expressing an opinion as to results. The complications, peritonitis, (that is chronic peritonitis,) salpingitis and ovaritis, frequently remain after the disease has disappeared, as an attestation of the ravages of a permanent nature, which have been committed. Pelvic abscess, often more persistent than any of these, is frequently left behind as a result.

Symptoms.—For convenience of description it is well to divide the symptoms of this disease into four leading types, all of which present marked features of their own ; in the first we have chill, fever, pain, quick pulse, furred tongue, and all of the ordinary concomitants of inflammation ; 2nd, those accompanied by fever and pain without chill ; 3d, those indicated by pain and local elevation of temperature with hectic evidences in the evening ; 4th, where the disease has produced so little disturbance as to remain completely masked, until by accident, as it were, it has been discovered, the patient complaining of a certain degree of pelvic disturbance such as weight, oppression, with general lassitude, when the physican being led to make an examination per vaginum, frequently groping in the dark from the sensible signs, suddenly discovers the cause of the disturbance to be pelvic cellulitis.

In the first type, both in the puerperal and non-puerperal, the chill is more or less marked, followed by pronounced fever as soon as reäction takes place, which is more or less rapid according to the amount of shock produced, or extent of tissue involved. This is usually a continued fever, and observes the laws peculiar to fevers of this type, being lower in the morning, and exacerbating in the afternoon. The fever is generally moderate, the thermometer showing, usually, a temperature varying from 100° to 101° in the morning, and 102° to 103° in the afternoon. There are cases, however, where the fever remains high continuosly and where the evening markings show a temperature of 105° to 107°. These latter are decidedly grave in character, and evince the fact that the peritoneum is extensively involved where the temperature stands for any length of time at 105°, our prognosis must be of an unfavorable nature, the patients, in fact, rarely recovering. The pulse ranges from 90 to 120, according as the disease is, grave or the circulation

disturbed, either from extensive congestion, or nervous irritation; the pulse will exhibit peculiarities as the peritoneum is or is not involved, showing that tension and rapidity in the former which is peculiar to serous inflammation. Pain is usually severe just in proportion to extent of peritoneal inflammation; of course, we often have pain in uncomplicated cellulitis, but I am now describing the severe forms of the disease. The pain exists frequently upon one side, often on both; we also have pain in the back and pain radiating in various directions, through the pelvis, down the anterior and inner aspect of the thighs, down the posterior part, taking the direction of the sciatic nerve. These pains arise either from direct pressure or from the congestion of parts, implicating either the origin or tract of the nerves, or they are purely of a reflex character. With the pain we usually have more or less tympanites and tenderness in the hypogastric region, confined to one or both sides. Nausea and vomiting are found as complications. Nausea exists often early in the disease as a reflex result, when it is accompanied with vomiting loaded with bile and of frequent occurrence, it indicates involvement of the peritoneum in proportion to its severity and the quantity of bile ejected. Now we have peritonitis as the leading disease, evinced by a sunken pinched condition of face, with palor and leaden hue of countenance, peculiarity of voice, decubitus of peritonitis marked, patient lying on back, with limbs drawn up, and indisposed to move in any manner for fear of exciting pain. This condition is sometimes similated by persons of hysterical temperament, when suffering from one of their attacks. Absence of all febrile disturbance, and want of hypogastric tenderness from pressure, while their attention is called off from the disease, will readily clear up all vagueness upon this subject. Occasionally, where the peritonitis is of a very violent type from the inception of the attack there is a total absence of pain, arising from the great amount of shock, produced by the sudden and extensive involvement of the tissue. The fever in an ordinary attack of this disease is from the first mild in character, often, in fact, generally not ushered in by a chill, and is of a decidedly remittent type; when intermittent exists, the disease has spent its force, and either convalescence has set in, or pyogenic influences have been brought into play. In the remittent form of the disease the thermometer may

prove deceptive when applied to the usually selected points of the body, but when placed in the vagina a pronounced elevation will be evident during the afternoon, and a general rise of temperature will be manifest. Here, I trust I may be pardoned for a slight digression in order to make a few observations in regard to thermometry. In no disease is the use of this instrument more important than in this, hence the necessity of having accurate instruments, and making observations sufficiently often during the day and at the proper hours. Nearly all of the instruments we have, owing to the avarice of manufacturers are inaccurate, no two of them measuring alike, and leaving us in a constant state of doubt as to whether our observations are to be relied upon or not. These inaccuracies on the one hand, and failure of agreement upon the other, arise from the different degrees of contractility existing between the two substances, glass and mercury; and time is required for them to uniformly adapt themselves to each other. Observation has determined that at least two years are necessary for this condition to be reached, and no instrument should be graduated until it has been laid away for at least the time above indicated. The self-registering thermometers are best, as they not only elevate the mercury to the proper point, but it remains there serving for future reference as often as desired. The point of election in taking the temperature is also important, of course. If we could, the placing of the thermometer in the ascending cava after leaving the liver, or in the chambers of the heart, would more accurately indicate the central temperature, which is the one we are seeking; as this is not practical, observers have been driven to the mouth, rectum, vagina and axilla, as regions best adapted for the purpose of taking temperature. Strong arguments may be urged in advocacy of each one of these selected points, but for general application I believe the *axilla* offers a greater number of advantages than the others, for it meets the indications in the largest range of cases, and spares the feelings of a numerous class of patients, when we abstain from placing the instruments in either the rectum or vagina. I am aware that the position I here take is contrary to the opinion of the German writers, but I am fortunate in being sustained by Dr. Seguin, and others in this country. The point of application being determined, the instrument should be allowed to remain from

eight to ten minutes in situ, before finally removing it. During the last three minutes the instrument can be removed several times and immediately returned in order to discover whether the mercury is undergoing change or not. Daily observations should frequently be made in the commencement of any disease, and at stated intervals, in order to discover its progressive type ; when this has been determined, two, or at most, four observations a day will suffice. In country practice, we are often not able to make more than two observations in the twenty-four hours, and then we should select those hours, when there exists the widest departure from the normal in the way of elevation and depression. The hours from seven to nine in the morning and from four to six in the afternoon, have been ascertained to meet these requirements, the former representing the period of depression, the latter that of elevation, therefore these hours should be selected if possible. It is important in the disease under consideration, that the vaginal temperature should also be taken as this will give the amount of local disturbance over that of general constitutional derangement. In health, the difference between the temperature of vagina and general temperature, has been variously estimated at 6-10ths to 1°. Deviations from this proportion, will be the measure of difference indicating the departure from the norm.

Physical Signs.—We must at last depend upon a careful consideration of the physical signs in order to reach a correct diagnosis. During the first stage of the disease as the finger is intruded in the vagina, a certain degree of œdema producing a sensation of puffiness will be evinced, and the temperature of the parts will prove to be decidedly elevated. By examining carefully in all directions we are capable of, from before backward, from side to side, above and below, more or less tenderness will become evident, and when the finger reaches some one of the favorite seats of the disease, we find a point of marked tenderness, which is increased by conjoined manipulation.

The stage of effusion being reached, examination in addition to the symptoms above described, will discover through conjoined manipulation a tumor, varying in size from a small nut to that of an orange in one or the other of the broad ligaments, upon the side of the cervix in any direction, occasionally, in the wall of the vagina;

the points of election being the left broad ligament, then the right, then immediately beside the neck in one or the other of the utero-sacral ligaments. The tumor sometimes appears as if it was a part of the uterus, a projection of its lateral margin, so close to its proximity, but usually is separated from it by a well marked furrow, or else somewhat removed from it, often extending up into the iliac fossa. The tumor is only movable when it is circumscribed and lies quite close to the uterus, moving with it and producing the impression that it is an appendage of the organ. When the disease has involved the peritoneum the uterus becomes fixed in position, and the roof of the pelvis offers that resistance, which imparts to the finger the impression as if it were a deal board. In vaginal examinations, the regional anatomy should be carefully kept in our minds; every section should be explored, the whole tract of the vagina, the broad ligaments, Douglas' cul de sac, and the anterior part of the neck and body of the uterus. Conjoined manipulation will be found essential, and in all tumors situated posteriorly, or latero-posteriorly, a careful examination per rectum is deemed necessary.

The disease after passing into the third stage exhibits in addition to the signs before described, a greater displacement of the uterus than has previously existed, being pushed far out of its normal line in a direction opposite to that of the accumulation of pus. It may be borne down by the weight of the mass, and lie upon the floor of the pelvis, it may take the direction of any of the versions, it can become flexed, owing to the neck being fixed while the body remains movable. Whenever its normal relations have been disturbed, wherever it has been placed, it is liable to remain fixed from being held in such position by adhesive inflammation. The disease may be confounded with fibrous tumor or hematocele. Fibrous tumors, as a rule, are round, those of cellulitis, rather flat. Fibrous tumors are slow in their development, painless, free from tenderness and mobile, they are liable to be multiple, they feel as if they constituted a part of the organ, while those of cellulitis generally appear to be distinct from the uterus.

In hematocele, the opposite of acute inflammation occurs; it appears generally without premonitory symptoms, the evidences of collapse set in at once, we have great prostration, coldness, dyspnœa,

and hemorrhage. The tumor felt, usually, in Douglas' cul de sac is soft in the beginning, is readily reducible, by changing the position of the patient unless the hemorrhage has been very great, fluctuates under manipulation, and only becomes firm after a certain lapse of time by partial absorption and peritoneal fixation.

The consequences of cellulitis depend entirely upon the recuperative power of the patient and the extent to which the disease has gone, in other words, the amount of damage which has been inflicted. Where, after convalescence, the œdema of the tissue rapidly disappears, and the peritoneal involvement yields, owing to an effort of nature by absorption to remove the same, we have the uterus with their appendages resuming their normal relations, and a gradual restoration of the general health attained. Sometimes after the displacement of the uterus by the deposit or formation on pus when the peritoneum is implicated, after either the absorption of the material or the discharge of the purulent mass, we may see by the subsequent retraction of the peritoneum, such displacement rectified, as is sometimes observed in lateral versions. Generally however, the rule is the converse of this, and where peritoneal contraction takes place, permanent uterine displacement results, which can only be remedied by the interference of art. From these displacements arise one of the chief causes of sterility; conception often takes place in this condition, and gestation proceeds to that point where it becomes necessary for the uterus to expand in order to meet the requirements of its contents; its confined condition preventing this irritation, follows, and the products of conception are thrown off. Another grave cause of sterility, is where the inflammation has extended to the broad ligament, involving the ovary and Fallopian tubes; occasionally the ovary takes on suppurative action and becomes entirely destroyed; again, adhesive lymph being thrown around it, contraction sets in, a forced atrophy takes place, and its functional power ceases to exist. Ovarian neuralgia so often found, also reflex neuralgia in other parts, are often the sequences of this ovarian imprisonment and atrophy. Adhesive lymph by incarcerating the Fallopian tube may displace it in such a way, or so contract its calibre as to prevent the performance of its selected office. The fimbriated extremity being unable to reach the natural position, may fail to receive the ovum; again, a capsule of

lymph may so effectually invest the ovary as to prevent the escape of the ovum after it has reached maturity and is ready to make its departure from a Graffian follicle. In addition to sterility, amenorrhœa, dysmenorrhœa, menorrhagia and displacements all are to be classed as the frequent resultants of this capricious and dangerous disease. There is another peculiarity connected with this malady, neither violence of symptoms nor duration of disease, furnish any key as to the amount of damage done. An attack of cellulitis of the mildest type with symptoms so little prominent as to be overlooked by the practitioner can inflict irreparable injury. Upon the subsidence of the active symptoms of this disease in the event that nature aided or unaided by treatment has proved herself unable to dispose of the foreign material deposited in the parts, we have to fear the breaking down of said material into puriform circumscribed masses, which is indicated by all of the symptoms of hectic fever, such as rigors of frequent occurrence, fever, followed by perspiration, complexion of a leaden, often of an icterode hue. The above symptoms all indicate that the deposit has become purulent, and the patient frequently becomes extremely feeble and emaciated, and often runs into a rapid decline. This condition of affairs is evidently brought about as hectic fever is produced elsewhere, and is an effort of nature to rid herself of absorbed puriform material. It is true, as has been observed by both Prof. Kolb and Dr. Emmet, that we have occasionally pus formations, so well sacculated, as to produce none of the above symptoms, these sacs remaining for years in this condition without producing disturbance of any kind, and sometimes in an effort at diagnosis, being mistaken for fibroids. Then, again, the patient may be spared constitutional annoyance by the pus undergoing fatty degeneration and becoming absorbed, or the the pus may be transformed into a whitish fatty pulp, mixed with calcareous salts, and so remain indefinitely.

The rule, however, is that upon the formation of pus, there will exist all the evidences of constitutional disturbance, and the abscesses which are at first minute in size, continue to excite distinctive inflammation in the connective tissue, and gradually increase until they finally coalesce, and form one or more large circumscribed abscesses. These accumulations of pus travel in the direction where least resistance is offered, and if not opened by art,

finally establish a passage of escape for themselves. There are a number of directions, some of them very erratic, taken by the discharge, the opening being sometimes through the abdominal walls in various situ, through the pelvic roof into the peritoneal cavity, through the pelvic viscera, and in the order of frequency, into the vagina, rectum, bladder, uterus and urethra, through the floor of the pelvis near the rectum, and the various foramina, the obturators and sacro-sciatic; occasionally into the small intestine; again, it follows the direction of the psoas muscle, opening at the groin. The direction of the track of discharge has been known to be long and tortuous. Dr. Echeveria reports a case of the pus escaping through the sciatic foramen, burrowing upwards and forwards, making its exit near the great trochanter. Occasionally the discharge has been poured into one of the labia majora; again burrowings under the glutei or between the muscles along the inner aspect of the thigh have been noted.

Unless a proper diagnosis has been previously made, discharges so remote from the seat of disease, are but too well calculated to mislead the physician. The usual seat of the openings for the non-puerperal, are, in their order of frequency, the posterior cul de sac of the vagina, from either of the broad ligaments, generally the left, but in either case, the opening will be discovered a little posteriorly and to one side of the uterine neck: often the abscess discharges into the rectum, and with much less frequency pours into the bladder. In those cases peculiar to the puerperal state, Dr. McClintock and Prof. Barker, in their remarks upon the subject, are disposed to believe that the abdominal walls, the rectum and vagina are the most generally selected points. There is, of course, much difference in respect to the safety of the patient, as to the point of selection, for discharge; through the peritoneum and bladder, are the most dangerous: pointing in the former situation almost inevitably leads to the death of the patient; discharge, however, in this direction is generally averted by the formation of adventitious tissue, which resists farther encroachment. In those cases where the discharge opens in one of the most dependent parts of the sac, in a short time shrinking occurs in the walls of the cavity, the discharge grows rapidly less, adhesive inflammation takes place between the walls of the sac, and all of the exhaustive causes having disappeared, the patient rapidly recovers. Conditions more

unfavorable occasionally present themselves; the walls of the abscess may be so thick that they cannot come together, or, owing to some other cause, the cavity fails to be obliterated, a pyogenic membrane forms, lining this cavity, and continues to secrete and pour out pus; in proportion to the amount of discharge, and the irritation produced will the constitution of the patient be affected, and she is at last called upon to tax all of her physical resources to resist the prostrating inroads of the disease, and unless greatly aided by art, she is liable to succumb.

Treament.—When called to a patient suffering from cellulitis, if seen at its inception, which, however is rare, the physician should endeavor to bring about reäction by means of warm applications, such as bottles filled with hot water, applied to the feet and lower extremities, a warm stimulating drink generally of an alcoholic character; a large poultice placed over the abdomen will prove of service. So soon as reäction has become well established, leeches may be applied to the hypogastrium, the perineum, and around the margin of the anus, for the purpose of relieving local congestion. I need not here go over the ground which has been so often canvassed for the purpose of giving the pros and cons upon the subject of the extraction of blood, as I take it for granted that all parties concede that there is nothing equal to the local abstraction of blood for the relief of active congestion. The bleeding should be encouraged by the use of warm applications, until from six to twelve ounces, according to the strength of the patient, has been taken.

When we can select the part to which the leeches should be applied, the margin of the anus, owing to the arrangement of its blood-vessels, will more directly and speedily accomplish the the desired end. By abstracting the blood from the hemorrhoidal veins, the portal circulation, becomes directly influenced, and in this way, owing to their intimate association the pelvic circulation becomes at once favorably affected. Simultaneous with the application of leeches, where the febrile action is high, and the arterial circulation markedly increased, we should at once resort to those remedies, which have a tendency to control the circulation and reduce the temperature. Standing at the head of the list is veratrum viride, given at such intervals and in such doses as may be required

according to the strength and condition of the patient. This drug, however, can only be used on rare and special occasions, as quite the larger number of patients cannot tolerate its depressing effects. Quinine given in as large doses as the patient can bear without inconvenience will prove most valuable. It is best given in one large dose daily, and continued until febrile reäction has been overcome; at this stage of the disease, the drug is given strictly for its anti-pyretic powers. Farther on we will have occasion to recommend it for its anti-pyogenetic effect.

With the use of these drugs, we must in addition, apply continued warmth to the abdomen, either by compresses wrung out in hot water, or warm poultices, of which linseed meal is the best. These applications are to be repeated sufficiently often to keep up a uniform temperature, should be covered with oil silk, and retained in situ by a bandage of some soft elastic material, flannel is to be preferred. So soon as reäction from chill has set in, if we are so fortunate as to see the patient at this early stage, we must commence the use of hot water and vaginal injections, which are by far, superior to all other remedial agents we have at our command and the extent to which they may be pushed is truly astounding. The first few hours after reäction determine the duration, severity, and what is still more important, the probable results of the attack. Moments well spent will now bridge over chasms, and minutes may almost be counted as hours. These injections must be with short intervals, continued for hours, they are the only means that we possess which can abort an attack of cellulitis. The manner in which heat acts when water is used as a vehicle, has been diligently studied and practically applied by Dr. Emmet, who regards it as the most important of all applications to the uterus and its appendages in meeting the widest range of disease. The first effect of heat, when applied to the body, is to produce relaxation, followed soon after by contraction of a decided and lasting character; the converse of cold, which first retracts and by reäction of parts causes subsequent relaxation.

Taking advantage of these ascertained laws of heat, he has been most fortunate in its application to the pelvic region; do not understand me for a moment to suggest that he was either the discoverer of the principle, or the only one who has used hot water in the

treatment of female diseases. Professors Barker and Thomas are most happy and full in their suggestions upon the same subject. The range of temperature of the water, according to Dr. Emmet depends upon the feelings of your patient, and as to the extremes he establishes the scale by Farenheit from 100° to 110°, using the highest temperature that can be tolerated without inconvenience to the patient. In order to give the injection, the patient should be made as comfortable as possible, a pillow should be placed under her back, a bed-pan under her in position, a Davidson's syringe should be used with its nozzle covered with some non-conducting material, or the nozzle should be made of horn, turned wood or some other indifferent conductor of heat. A rubber tube may be attached to the pan, so as to conduct the water into some receptacle below, and then with an assistant at hand to relieve you when exhausted, you can prepare for work. The best rule is to continue the injection until the fever subsides, for then we may feel reasonably sure that the danger has been averted. By the use of hot water we so stimulate the vessels of the pelvis to contraction as to ward off congestion of the parts, thus aborting the disease in the outset. Pain in this, the first stage, must be controlled at once as it is the expression of nerve irritation with accompanying congestion. In order to accomplish this some one of the anodynes must be resorted to. None are equal to the preparations of opium; the dose should be regulated by the degree of pain, and generally it is best at the onset to give a hypodermic injection, following this at a proper interval with rectal injections of starch and some one of the liquid preparations; Battley's sedative liquor or McMun's elixir I prefer. Powdered opium can be used with starch, or if deemed advisable, cocoa suppositories containing opium. We should be guarded not to push the drug too far, we are not endeavoring to overcome the peristaltic action of the bowels, which is indispensable in general peritonitis. We desire merely to control pain. As only the rectal portion of the alimentary tract is here involved, we would rejoice to see semi-fluid evacuations daily, instead of having to contend with the marked constipation which usually exists.

We have now to consider exudation, that stage of cellulitis which is usually the first seen by the physician and which may last but a few hours, though it may continue for many days. There will be

either an absence of fever or great reduction of temperature, the pain will be decidedly lessened, the elevation of local temperature will still be marked, the uterus and its appendages may be movable, and a tumor may or may not be clearly defined. Nature will now endeavor through the absorbents to remove the foreign material, and if properly aided by art with a fair constitution she can generally succeed. Under no circumstances should the patient be permitted to get up or even change her position in bed *unaided;* covering sufficient to protect her from the influence of cold, a spacious and well ventilated apartment, with absence of all excitement and freedom from company are indispensable. The vaginal injections are still to be continued but not so frequently as in the first stage, generally an injection night and morning will be sufficient to stimulate the blood-vessels to contraction, promote absorption and relieve pain, the one given at bed time usually acts as a sporific. Anothdr important feature in the treatment to relieve pain and to promote absorption is counter-irritation ; a blister six by eight inches should be applied over the hypogastrium avoiding in its application the groins, in order to prevent troublesome irritation. Its action can be hurried up by first applying for a short time, a mustard poultice prepared with vinegar; from six to eight hours will be time sufficient for the blister to remain. The directions of Prof. Emmet are decidedly the most advisable of all the plans I have seen suggested ; upon the removal of the blister, he at once applies a soft poultice covered with oil silk, protected by a flannel binder ; removing poultice after a few hours, clipping the blebs, wiping the surface with sponge dipped in warm water slightly soaped ; *when dried,* over the surface he places loose cotton of a superior quality, he resorts to this plan in order to husband the resources of the patient by rapidly healing the blister in from twenty-four to forty-eight hours, he gently removes all the cotton he can without resorting to force, and the rest he moistens with a sponge dipped in warm water slightly impregnated with carbolic acid. The surface of blister is then carefully dried and fresh cotton applied. This plan to be pursued daily, if any odor can be detected, or the patient complains of being uncomfortable. If necessary, he recommends another blister to be applied in from twelve to fourteen days. In this, the second stage, as in the first, we are frequently called upon

to relieve pain with opium; we should be as sparing in its use as possible, remembering that it may be required for an indefinite length of time, and there is a condition brought about by its too free administration, which will prove anything but beneficial to the patient. Prolonged constipation, nausea and even persistent vomiting may be kept up by its too free administration, and general nutrition will not only be impaired by its injudicious use, but for the time being the appropriative powers of the system will be absolutely dormant. When given in moderate doses, and at sufficiently wide intervals by allaying pain, quieting nerve irritation, and overcoming reflected impressions, it may be said to act almost as a tonic, hold it in reserve, therefore, as long as possible; rely upon the local action of heat, in the way of vaginal injections and warm soothing applications to the hypogastrium to keep down pain and irritation, but when necessary, do not hesitate to resort to it by either rectal injections or suppositories, and in some rare cases, where great rectal irritation forbids the use of either of the above, hypodermic injections of morphia will prove of service. Alterative remedies such as the iodide and bromide of potassium, and the different preparations of mercury have been recommended. The iodide of potassium, if administered sufficiently often, say every fourth hour in five grain doses in connection with some tonic as compound tincture of cinchona, I have no doubt in a certain number of cases would prove of service and is worthy of trial.

In regard to the bromide, as the former possesses superior sorbifacient powers, I take it for granted that this drug will rarely be required. An occasional mercurial, such as calomel administered for its peculiar effect upon the liver and portal system, it seems would be judicious; by thus unloading the portal circle, the pelvic congestion would be favorably acted upon, giving an impulse in the direction of recovery and by the cathartic effect of the drug, the *constipation* for the *time being would be overcome*, which generally proves so marked a source of irritation to the parts, and of annoyance to the patient. In its administration its specific effect is neither desired nor intended and should be studiously avoided.

Tonics of various kinds will prove of service; so of nutrient remedies; everything should be done for the purpose of sustaining the strength and husbanding the resources. The different prepara-

tions of cinchona bark, sulphate of quinine, the milder preparations of iron, cod liver oil, the various malt preparations, all will prove at times, when used judiciously, of advantage. The food should be concentrated and nutritious, fluid in form, so as to enable it to be appropriated, as fully as possible, leaving but little residue to collect and lodge in the rectum ; milk, the animal essences, eggs, soft boiled or raw, are desirable. It is all important that the rectum be kept from becoming distended, as it is always more or less affected in this disease ; either mechanically or reflectively, lodgment of fæces generally takes place, and we should resort to such medicaments as have a tendency to overcome this condition of affairs. A mercurial cathartic every other day, preparations of senna, sulphur and cream of tartar, oxgall and other mild cathartics have all been recommended and tried with more or less success. Where flatulence exists, turpentine in small and repeated doses, assafœtida, preferably in capsules, will be found to afford relief. Scybala forming and impacting the rectum, are ingeniously removed in the manner suggested by Dr. Emmet, after injecting a few ounces of warm flax seed or oil. He directs that the passage of the index finger in front of and beyond the mass, and then by using the force, downwards and backwards in the direction of the sacrum the inflamed section is avoided, and thus the object is accomplished with least annoyance to the patient.

Having exhausted all the resources at our command and having failed to arrest the progress of the disease, we will suddenly be made aware of a more advanced and serious condition of affairs. The formation of pus and the commencement of abscess indicated by frequent rigors and decided fever of a hectic type : the pain which had probably subsided returns ; should pain, however, have existed throughout the disease, it beomes increased in intensity, the pus at first scattered in various directions, finally breaks down intervening tissue, and we have at last a distinct abscess with more or less definite outlines established.

The most guarded care should now be taken of the patient, every law of hygiene should be religiously and most scrupulously observed. Proper ventilation, a spacious apartment, with plenty of sun light, the requisite amount of clothing, properly prepared food, should all be attentively looked after, for unless the abscess quickly points,

and obliteration of the sac speedily follows, we may look forward to a prolonged state of affairs in which the system is constantly being poisoned upon the one hand by the absorption of pus, and drained upon the other from the nutritive waste in the nature of a pyogenetic formation and discharge. Hectic fever, the measure of this physical disturbance must be looked after and controlled, for unless this be accomplished the patient must in the end succumb. So long as the thermometer shows moderate exacerbations in the afternoon and evening, we can have hope, provided the patient can retain the medicines and appropriate the nourishment administered to her, but if we have a steady high marking of the thermometer of 105° or higher, for a period of twenty-four or forty-eight hours, our prognosis should be of the gravest character. To control this fever and waste, we have a number of valuable remedies to which we can resort. Quinine, opium, digitalis, aconite, stimulants, etc. Remembering the rule laid down that quinia administered daily in large doses reduces temperature, arrests waste, and is an anti-pyogenetic, we should give it a full and fair trial. When cerebral disturbance exists, or where it is produced by this drug, we have at our command two remedies highly recommended by Dr. Emmet, bromide of potassium and hydrobromic acid. Prior to seeing his article, I had frequently tried the former in many cases of fever, with infants as well as adults, where it became necessary to administer quinia, and I met with most gratifying results. With the latter I have no experience, but intend giving it a trial when an opportunity presents itself. Quinia should only be used to the point of reducing the temperature within reasonable limits, after that it can be continued with advantage in tonic doses, watching for a return of high temperature, when the former dose should be resumed. Where quinia fails to control the temperature, and the pulse remains rapid and feeble, powdered digitalis given in from ten to twenty grains within the twenty-four hours, will prove a valuable aid to the quinia in establishing a proper equilibrium. Opium, as in other stages, must be used when necessary to quiet pain, but as infrequently as possible. In alcohol we find a valuable auxiliary for giving strength to the pulse, reducing its rapidity, and in this way arresting tissue waste, when the vital powers are greatly depressed, it often proves invaluable, the quantity taken in twenty-

four hours should be uniform, and determined by experiment with each patient. As a tonic and nutrient it is also valuable administered in small and infrequent doses in combination with other remedies, and proper nourishment.

Aconite is strongly recommended by Dr. Emmet where the vital powers have become impaired, and the action of the heart has been necessarily rendered more frequent from diminution of force. He considers this drug under these circumstances, as a heart tonic. So soon as fluctuation is discovered we should aspirate, in order to draw off all of the pus, thus relieving the parts of tension, subduing pain, and preventing the introduction of air, avoiding thereby a disposition to farther ulceration, or the increased and prolonged maintenance of the discharge; by permitting the walls of the abscess to come together the probabilities are strongly in favor of speedy termination of the disease.

Again, by aspirating early, we avoid to great extent, danger of the abscess rupturing into the peritoneal cavity; where *fluctuation* is detected, and we find it impossible to aspirate, the *abscess* should at once be opened in its most dependent part, by doing this we get rid of the present accumulation of pus, but introduce air, and for the time being increase the offensiveness and the quantity of the discharge. Whenever an opening exists, either from natural or artificial interference, the cavity should daily be *washed out* by the physician with a rubber syringe, bent as may be necessary to adapt itself to the pelvic curvature, and the direction of the sac. Thorough washings should be given the sac with water containing Labaraque's solutions, carbolic acid, or any other desirable disinfectant. The nurse should in addition continue twice, daily, the use of hot water vaginal injections. Where the cavity does not appear to be diminished after a reasonable time, the physician should thoroughly cleanse it, and inject a solution of iodine, commencing with a dilute solution and gradually increasing its strength according to indications, avoid giving pain or producing disturbance in the parts, and you will keep within the proper limits in regard to the applications.

Should the patient recover she must be extremely guarded for several months, never allowing herself to become fatigued from exertion of any kind for fear of a relapse, and for some time, she should for the same reason confine herself to bed during her men-

strual peroids. Where the uterus is found to be in any manner displaced from the results of the disease, either by the contraction of adventitious material thrown out during the progress of the attack, or should the uterus have been displaced by the pressure of an abscess and so remained after the evacuation of its contents, provided local disturbance is being kept up, made manifest by pain and functional disturbance of neighboring organs, and when all active symptoms of the disease proper have subsided, those remedies, both mechanical and medical which are usually recommended, should be resorted to, in order to reëstablish the proper anatomical and functional relation of parts, and thus permit nature to move onward unobstructed in her course.

REPORT OF THE PROGRESS OF OPHTHALMOLOGY AND OTOLOGY.*

By Dr. R. H. Lewis, of Raleigh.

In making a report as Chairman of the Section on Ophthalmology and Otology, I must confess, that never having occupied a similar position before I am somewhat at a loss as to what, exactly, is expected of me. I suppose, however, that a short résumé of the recent progress in those departments of our science will be proper.

As a body of busy general practitioners can hardly be very much interested in the more obstruse questions appertaining to a special department, I shall not occupy their time (I doubt if I could obtain their attention) with the consideration of such subjects, for example, as "The Analytical Conditions of that Form of Astigmatic Pencil in which the two Focal Lines are Perpendicular each to the Axis of the Pencil, and also to each other, and the Correction of such Pencil by a Plano-cylindrical Lens" or the "Analysis of the Tones Included in the Secondary Noise of an Intermitting Tuning-Fork."

But it shall be my endeavor, in the brief report I propose making, to restrict myself, as much as possible, to subjects either of

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practical importance to the profession at large, or of more or less general scientific interest, and to avoid as far as may be, consistent with clearness, minute details which could only interest the specialist.

In the domain of anatomy the question which has probably attracted most attention of late among ophthalmologists, and which is of decided practical importance as bearing directly on the diagnosis of brain disease, is that of the decussation in the chiasm of the optic nerve fibres.

A number of men of standing have taken part in the discussion, some favoring the view of a total crossing, but none the old theory of a semi-decussation, until now it seems to have been pretty well settled, more, however, by clinical observations supported by post-mortem examinations than by actual dissection, in favor of the latter—certainly in man.

In ocular physiology the most striking event of the last decade was the discovery just ten years ago by Prof. Boll of the University of Rome of the retinal red, or purple as it is also called, which under the further investigations of Boll himself, Kühne, of Heidelberg, and others, has developed some interesting peculiarities. This retinal purple is, it seems, a fluid secreted probably by the layer of pigmented hexagonal epithelium, though by no means certainly, which is decolorized very rapidly by white light, and with less rapidity, varying according to the color, in colored light. Kühne found that a retina bleached in twelve minutes in violet light, and in twenty-five in green, while in red light the color lasted eight hours. Thirty seconds in bright sunlight has been found sufficient to produce the same result. In darkness, however, on the other hand, the purple, or eyrthropsine as it was named by Boll, is very quickly restored, even after death. Several observers have succeeded in taking optograms on the retinas of curarized rabbits and frogs, and Kühne claims to have succeeded very well with the eyes of oxen an hour after death.

These pictures were always on the outside of the retina, or, in other words, on that portion of the layer of rods which lies bathed in the purple. From these facts it seems not improbable that the true theory of vision is, that it is a photo-chemical process, instead of a physical one as assumed in the Young-Helmholtz theory, which

supposes three sets of rods and cones each of which responds only the vibrations of one of the three primary colors, the secondary colors being the result of a united action on the part of two of these sets. While the photo-chemical theory cannot by any means be said to have been demonstrated, since there are many forcible objections to it (e. g., the fact that many birds have no retinal purple) into a consideration of which it would not be proper for me to enter here, I am nevertheless disposed to believe that it is a step in the right direction, and that with certain modifications it will be eventually, in all probability, established.

The theory of the perception of colors by the retina naturally suggests the subject of color-blindness, which, aside from its scientific interest is a subject of vital importance to the travelling public, inasmuch as their safety necessarily depends to a considerable extent upon the ability of railroad and steamboat officials to distinguish accurately the colors of night signals. The subject has received a great deal of attention of late from many of the most prominent ophthalmologists on both sides of the Atlantic, and notably in this country, from Dr. B. Joy Jeffries, of Boston. The color-sense of tens of thousands of railway employés and school children has been tested, and the outcome of these numerous observations is, that while complete color-blindness, i. e., an inability to do more than distinguish white from black, undoubtedly exists, it is very rare; but that incomplete color-blindness, i. e., blindness to one of the three primary colors, is much more common. The statistics so far accumulated show that persons are most frequently blind to red and least so to violet, and that the defect is present in about four per cent. of males and one-fourth to one-third per cent. of females. This disparity between the sexes is significant as probably bearing upon the question of the education of the color-sense.

Cases of complete color-blindness are hopeless, but it appears that the color-sense may be considerably developed in those only partially affected by education and practice, and already in the larger and better managed public schools the practical study of colors forms a part of the curriculum in the primary department—particularly where the Kindergarten system is followed.

This peculiar deficiency is usually congenital, but a number of cases in which it was known to follow disease, not only of the ner-

vous apparatus of the eye itself, but of other parts of the nervous system, as for instance, the spinal cord, show that it may be acquired. The cause is, of course, very obscure, and cannot be discovered until we learn how colors are perceived. There is undoubtedly more or less analogy between the color-sense and the music-sense, and it has been supposed by some that a certain relation exists between color-blindness and a poor ear for music. Dr. S. M. Burnett, of Washington City, has noted the fact that there are comparatively few cases of this anomaly among the negroes, and he has likewise called attention in this connection to the well known fact that they have as a race a remarkably "fine ear for melodies and also a love for brilliant colors." As he says, however, no investigations having been made in this direction we can as yet do nothing more than speculate.

A variety of ingenious tests for detecting color-blindness have been devised, but the simplest and the one in most general use, is that of Prof. Holmgren, which consists in matching Berlin wools of different shades.

In ocular therapeutics the only recent remedies worthy of special mention in such an incomplete report as this must necessarily be, are eserine or physostigmine, pilocarpine, and duboisine.

Eserine has been long known and employed as a myotic simply, but it was very little, if at all, used in pathological conditions, so far as I know, until within the past three or four years, or since the discovery of its effect on the intra-ocular tension.

It has proven very beneficial in various corneal affections as keratitis, corneal abscess, ulcers of the cornea, phlyctenular troubles, &c., but it is upon its effect in glaucoma that its reputation chiefly rests, and it will be mentioned more at length in that connection further on.

Jaborandi is a drug with which every physician who reads at all must be more or less familiar from the multitude of reports upon its effect in various general diseases published in the journals for the past several years. It has been used too in eye-affections, and with considerable success.

The muriate of pilocarpia applied locally is, like eserine, a myotic and is equally efficacious in corneal diseases; but it has never to my knowledge been observed to have any effect on glaucoma. Accord-

ing to the report of Dr. Laudesberg, of Philadelphia, in the Archives of Ophthalmology for May, 1879, of his experience with it, it seems to possess great value in a very intractable class of diseases. He found pilocarpin administered hypodermically specially useful as a sorbefacient in "intra-ocular hemorrhages and opacities of the vitreous and aqueous humors." He likewise experienced decided benefit from its exhibition in one case each, of partial atrophy of the optic nerve, optic neuritis, and retinitis albuminuric. It is certainly deserving of a more extended trial.

Duboisine, the active principle of the duboisia myoporoides, an Australian tree, has recently come very prominently into notice as a substitute for atropia. It was first suggested about ten years ago by Dr. Tweedy, of London, showing, in inflammation of the conjunctiva, an idiosyncrasy for the latter drug A number of eye-surgeons have lately published the result of their experiments with it, and from the evidence so far, we may, I think, predict a brilliant future for it. It has very much the same effect as atropine, but is more powerful—a two grain solution dilating the pupil and paralyzing the accommodation more promptly than a four grain solution of the latter; and it does not seem to irritate the conjunctiva, but it remains to be seen after it has been used on something like as large a scale, whether it will not develop the same, or worse vices, than the belladonna preparation. One of the most valuable properties, especially in relation to its use for the correction of anomalies of refraction, is its evanescent effect as compared with atropia. Constitutional symptoms, to-wit: vertigo, drowsiness and a feeling of weakness in the knees have been observed to follow the liberal use of a solution of the strength of four grains to the ounce in several cases, but no fatal result has been chronicled. The chief drawback to its general use at present, is its cost, the wholesale price being one dollar a grain.

The subject of glaucoma, as some one has said, is one of perennial interest, and it is one of interest, not only to oculists, but to general practitioners as well, for every physician, not within reach of a specialist, will, at one time or another be called on to treat it. It is a disease whose pathology is very obscure, and it is on that very account that it has been, and remains, so fruitful a subject of discussion. Quite a number of theories as to its true nature have been

advanced, but never has yet appeared sufficiently probable to obtain anything like universal support; though it is generally admitted, that the essence of disease lies in the increased intra-ocular tension and its consequences as most believe, cupping of the optic nerve. Now, as to the cause of this increased tension there are a variety of opinions, to only a few of the most prominent of which I can, in a general way, briefly allude.

Von Stellwag attributes it to a rigidity of the sclerotic, which permits its yielding to any increase in the intra-ocular humors; so that an amount of pressure, which in an eye with an elastic sclerotic would cause us trouble, would in an eye with a rigid one be pathological. He thinks that it is on this account that the disease is so much more common in old persons. According to A. Weber and Knies the increase of tension is due, not so much to rigidity of the sclerotic, as to an "impeded outlet, they holding that the natural avenues of escape of the intra-ocular humors, which they believe to be situated at the outer angle of the anterior chamber in what is known as Fontana's space are dammed up by the contact of the ciliary border of the iris with the periphery of the cornea—that condition being generally found in glaucomatous eyes. This ingenious theory, however, has been successfully refuted by Schuabel, who has examined a number of eyes in which the cornea and iris were not only in apposition at their outer borders, but firmly united from inflammatory action, and Fontana's space was filled with inflammatory products, that had never exhibited any symptoms of glaucoma during life.

The view, which for a long while numbered most adherents, originated with Von Græfe, who believe the disease to be an inflammatory affection, a peculiar form of irido-choroiditis; but the inflammatory theory has, now, in the opinion of most ophthalmologists; been superseded by the neuropathic of Professor Donders. Donders thinks that glaucoma, or in other words, an increase to a pathological degree of the intra-ocular tension, finds its source not in an inflammation, nor in rigidity of the sclerotic, nor in an impeded outlet, but in a neurosis of the secretory nerves of the eye. Time and your patience would not permit me to give the various reasons in support of this view, but I will merely mention one very significant clinical fact to which a number of observers, including

Stellwag and Græfe himself, have testified, and which, by the way was most beautifully shown in a case of tattooing of the cornea, reported by Hock, of Vienna, namely, that an irritation of the nerves of the cornea or the sensitive ciliary nerves will cause a glaucomatous increase in the ocular tension.

While we remain very much in the dark as to the pathology of this important disease, it is gratifying to be able to say that there have been some improvements in its treatment, which after all is the the practical question. From the time of its introduction by Von Græfe until a few years past, the only treatment known was iridectomy. Neither Græfe himself nor any one else could tell *why* iridectomy cured glaucoma, but such was the fact. The theory of DeWecker, of Paris, of the rationale of its action was that the relief to the tension was due, not so much to the removal of a piece of the iris, as to the cicatrix in the sclero-corneal junction, which, being more porous than the surrounding tissues, allowed a filtration through it of the excess of humor. Acting upon this idea he tried the effect of making the section without excising any part of the iris at all, and he found the result the same. Sclerotomy is the name that has been given to the operation, and it is performed as follows: A knife is passed into the anterior chamber in the sclero-corneal junction, as near the iris as is compatible with safety to the ciliary body, and brought out at a corresponding point on the other side, and the section is then made entirely in the junction, in a plain parallel with the iris, as if for the formation of a flap, but it is not quite completed, a narrow bridge of tissue being left. The sum of the two sections thus made should be equal, it is said, to that in a large iridectomy. This operation has now been done in many cases and generally with very good results, and is favorably regarded by a number of distinguished surgeons; but being difficult of performance, even by the most skilful, and very liable to be followed by prolapse of the iris, it is not recommended by most of its advocates, including Wecker himself, as a substitute for iridectomy in all cases, but only in the absolute and hemorrhagic forms of glaucoma, in which the latter is very apt to fail. Wecker has also suggested, and practiced successfully in the absolute form, drainage of the eye by means of a gold wire passed through the globe; but it has been known to cause sympathetic ophthalmia in at least one

case, and, being in no wise superior to other and safer methods, it will probably gain much favor.

Previous to 1876 no remedy for glaucoma short of the knife was known, but in that year Prof. Laqueur, of Strasburg, induced by a knowledge of the fact that atropia would sometimes bring on an acute attack of that disease in eyes predisposed to it, (a fact now thoroughly established—Schuabel once saw an attack of acute glaucoma excited by the instillation of one drop of an atropia solution of the strength of one-fifth of a grain to the ounce), and by the well known antagonism between atropine and eserine in their effects upon the pupil and the accommodation, resolved to ascertain if they were equally antagonistic in their effects upon the intra-ocular tension. The result of his experiments with eserine in six cases of glaucoma was, that it invariably reduced the pathological increase of tension. Since then his experiments have been repeated and generally confirmed by a great many observers.

At one time it was hoped that the problem had been practically solved and the dreaded disease robbed of its terrors, but further investigations have shown that hope to have been to a considerable extent delusive. As the conclusions of Prof. Knapp, as set forth by him in a communication in Vol. VII of the Arch. of O and O. "On the Action of Eserine in Glaucoma" quite accurately express the opinion at present prevailing on this subject, I will take the liberty of quoting him: "Thus far," he says, "I can only assert that eserine cures acute glaucoma permanently in exceptional cases: in the others it produces a temporary improvement, by which the patient may be beneficially prepared for the operation. In sub-acute glaucoma its effect is doubtful, and in chronic glaucoma, with or without sub-acute exacerbations, the remedy either has no effect at all or is injurious."

I have only used it once myself, and that was in a case of acute glaucoma living some distance in the country, which I was asked to see for a brother practitioner. I never saw the patient again but I was informed by him that she was relieved of the pain in great part and that vision which had been reduced to a mere perception of light was greatly improved within 24 hours. From what has been said it is clear that every country practitioner should carry a small quantity of this drug in his medicine chest or saddle bags for while it is by no means a specific he may, nevertheless, be able

with its assistance to tide his patient over an attack and save the eye until he can either do the iridectomy himself or send him to a specialist.

In the operative surgery of the eye there have been some advances made. To mention only the most important I would in addition to sclerotomy for glaucoma mentioned above like to call attention for a moment to an operation which while it cannot be said to be particularly new has only quite recently come into general notice. I refer to optico-ciliary neurotomy which is well described by its name and which is intended as a substitute for enucleation in those cases of threatened sympathetic ophthalmia where the injured eye retains a sufficient amount of good looks to make its retention desirable. It has been done quite a number of times by various oculists principally by Schöler, Hirschberg and Schweigger, of Berlin in Europe, and Chisolm and Knapp in this country. There appears to be some difference of opinion as to who deserves the credit of originating and first performing it but the idea undoubtedly had its birth in the fertile brain of Von Græfe and according to his authority it was first carried into execution by Dr. A. Weber, of Darmstadt, some fifteen years ago.

The operation is performed in the following manner : The tendon of the internal or external rectus (but why *external* rectus I must say with Prof. Knapp I cannot well understand as the optic nerve is harder to reach and the insertions of the oblique muscles are in the way on the outer side) is divided the tissues are dissected up from the posterior half of the globe, the optic nerve is cut with blunt pointed curved scissors, and rotating the ball forcibly inward or outward as the opposite muscle was severed with toothed forceps or a small sharp hook as preferred by Schweigger and Knapp any fibres that may remain are divided. The muscle is then advanced and united by sutures with the strip of conjunctiva left near the corneal border for the purpose ; and the operation is concluded by covering the closed eye with charpie or cotton and bandaging it rather firmly. There is always more or less prominence of the globe afterwards from effused blood and swelling behind it but that speedily subsides and in favorable cases the patient may be discharged in a week or ten days. It is nearly always successful though some squint generally remains and I have read of one's eye having been lost from suppuration.

Having removed tumors from the optic nerve and done one neurotomy very successfully without dividing any muscle Knapp advises a return to the original method suggested by Boucheron and others and the omission of the tenotomy as unnecessary and harmful. If the operation be properly done, and complete insensibility of the cornea is evidence of it, the ciliary nerves which pierce the sclerotic around the optic nerve entrance must be divided, and as they are the conductors of the morbific influence in sympathetic ophthalmia it is plain that the object of enucleation in those cases may be obtained without removing the eye and while the eye must ever remain perfectly sightless, it is nevertheless looked at from a cosmatic stand-point certainly an improvement on the latter.

For the removal of hard cataract the modified linear operation of Von Græfe remains by long odds the favorite.

In my opinion it has not been improved upon except probably in the method of opening the capsule which has been recently followed by Knapp in 72 cases in 67 of which the result was good, in one moderate, and in four the operation failed. Instead of lacerating the capsule freely and rather indiscriminately so to speak in its central portion as is the general custom he makes with a very sharp cystotome a clean cut incision in it near its periphery in the line of the corneal section. In some cases he enlarged the opening, by making an incision in the capsule from its centre to the middle of the horizontal opening thus making a T incision, but he did not think that of special benefit and discarded it. In a preliminary communication on Peripheral Division of the Capsule in Vol. VI, of the Arch. of O. and O. he sums up its advantages as follows: "1. Simplification of the operative procedure. 2. The operative manipulation is less liable to do injury. 3. The rapid healing of the linear wound of the capsule confines whatever remains behind within a closed cavity thus placing an eye from which a cataract has been removed in conditions akin to those which follow a simple iridectomy" which last he considers the chief advantage of the peripheral capsulotomy. Its only disadvantage as compared with other methods is the fact that many cases require subsequent division of the capsule though it is likewise a fact that many cases no matter how the capsule is opened require a second operation and as the method is as yet comparatively in its infancy it is impossible now to judge it fairly in that respect.

OTOLOGY.

The progress in this department, I regret to say, has not been so marked as is ophthalmology, and unfortunately this is particularly the case as regards the more common diseases of the ear in which we are all specially interested. There being, therefore, very little of a practical nature to report and having no doubt already wearied your patience, I will content myself with alluding very briefly to two or three matters of some general interest.

A uniform and satisfactory hearing test has always been a desideratum with aurists. Its has recently found its fulfilment, as far probably as such fulfilment is possible, in the invention by Dr. Politzer of his Acoumeter. This little instrument is very simple in its construction being composed of a steel bar tuned to a certain tone which is struck by a steel hammer that moves through a given space. Being simple, compact and inexpensive, and moreover, adapted for an examination of both ærial and bone conduction it has received a cordial endorsement from aurists generally, and no doubt will come into universal use as the accepted standard.

In a late number of the *American Journal of Medical Sciences*, Dr. Samual Sexton calls attention to an apparent connection between affections of the teeth and ears. His observations go to prove that there really is such a connection of a reflex character. He thinks artificial teeth on rubber plates peculiarly liable to irritate the gums and to bring on these reflex ear-troubles. This is new ground so far as I know and deserves cultivation.

When Mr. Rhodes, of Chicago, invented his audiphone it created a great sensation, there being some account of it in nearly every newspaper at that time and the most extravagant hopes were excited in the minds of the very deaf—to be alas! in great part disappointed. The theory upon which this instrument as well as the folding dentaphone is based, is the condensation of sound vibrations by a thin elastic plate of hard rubber or other suitable material rendered tense by cords in the audipone and by pressure with the hand in the folding dentaphone, the transmission of these vibrations to the cranial bones through the upper teeth in contact with which the upper edge of the fan-shaped instrument is placed; and the conduction of them through the cranial bones to the auditory nerve. The theory, the essential part of which, namely, the conduction of sound by the bones of the head has long been known, and which

implies a healthy condition of the auditory nerve is correct enough and there is no doubt that the hearing of persons very deaf from middle-ear disease is improved by the instrument but not to the extent that was at first anticipated. Dr. Charles S. Turnbull has seen "several markedly successful cases of its application" but thinks, nevertheless, that it has been overestimated ; and the observations of Dr. Knapp in a comparison between the audipone and an ordinary cup-shaped ear-trumpet with a parabolic bottom published in the last number of the Arch. of Otology, prove that while osteophones, which term includes all instruments designed for bone conduction of sound, will improve the hearing in many cases, they are not equal to the old-fashioned instrument referred to, the trumpet giving better results in every one of the 14 cases of which he made notes. To some persons words spoken in a trumpet are exceedingly unpleasant and to that very small class of patients he thinks the audiphone will prove more valuable than the trumpet. It is not applicable to cases of partial deafness because the sound waves being conducted to the auditory apparatus by the different routes and not arriving at exactly the same time nor with the intensity produce great confusion. Osteophones, it seems, therefore, have sadly disappointed expectation but they undoubtedly have possibilities and being very recent inventions, there is no telling yet to what extent they may be developed.

MEDICAL SCIENCE IN CONFLICT WITH MATERIALISM.

By Eugene Grissom, M. D., LL. D.

Delivered before the 27th Annual Meeting of the Medical Society of North Carolina, held in Wilmington, N. C., May 13, 1880.

Mr. President, Ladies and Gentlemem of the City of Wilmington:

There are times when the ordinary tasks of life are set aside, before some supreme call of duty. He, whose constant toil is due, to save wife or child from want, may hasten to obey the louder call of his country, for his country's safety is the highest earthly welfare. We honor the medical hero who turns aside from the ambition of life, and puts away its allurements, to teach the course of some mortal infection, with his own throes of agony. We bow the head before that man who breaks from the safe enclosure of routine labors at home, to fly to the distant abode of pestilence and death, that he may rescue the wretched, even though he should die with the dying.

There are, indeed, as we all recognize, duties incumbent upon the medical profession, not only of an ordinary nature like those of the good citizen, but sometimes rising to the sublime level of patriots and martyrs.

We are not only to pursue the round of simple healing from man to man, but there are occasions when we must step to the front with sanitary control over great cities and extensive communities, to save them from the poison festering in their bosom. May I not add that extraordinary movements in the currents of society, may none the less demand the exercise of the moral influence accorded to the profession, to neutralize noxious forces at war with true mental and spiritual hygiene, among our fellow-men ?

The exertion of such power is contemplated in the Code of Ethics, which declares :

" Every individual, on entering the profession, as he becomes thereby entitled to all its privileges and immunities, incurs an obligation to exert his best abilities to maintain its dignity and honor, to exalt its standing, and to extend the bounds of its usefulness" and again :

" There is no profession, from the members of which, greater purity of character and a higher standard of moral excellence are required, than the medical ; and to attain such eminence is a duty every physician owes alike to his profession and his patients." —*Art.* 1, *Sec.* 1, *of Duties of Physicians to Each Other and to the Profession at Large.*

Modern society is to-day assailed by an insidious foe, which conceals under the guise of physiology, clothed upon by a brilliant philosophy, all the fell elements of disintegration of the whole social economy, the destruction of the nobler motives of human action, the loss of the very sense of right and wrong, and the deprivation of the hope of immortality.

It is in the name of science that this evil work is to be done. It is claimed that physiology sanctions it, that anatomy and embryology demonstrate it, that comparative anatomy and palæontology confirm it, and only ignorance or prejudice can deny it.

With the cool indifference that slices an egg to examine its cell-growth, the brain of man is handled on the point of the scalpel, and we are scornfully told that man is but a better brute—not so

strong, it is true, as the lion, not so potent as the ox, not so swift as the eagle, not so provident as the ant, but yet a better sort of ape, indulging in a dream of mortality, and breathing aspirations as baseless as the chase of the dog who barks in his slumber.

It is in the name of medical science that these things are boldly declared. It is from the heights of biology that guns are levelled, which with or without intent, are reducing many human lives to chaos—destroying faith, hope, sense of right, belief in fellow-man, and all tender sympathies with the wronged or the suffering; leaving no ambition but the blind struggle of the mightier trampling upon the weaker, and no end but infinite wreck and waste, like the scarred face of the moon in its awful stillness of desolation.

It is not, therefore, strange that the popular mind has begun to identify the physician with the materialist, just as in former ages the chemist was accounted a dealer in magic, and in later days the geology was berated in Cowper's pungent lines as an infidel.

Not long ago, a journal widely read, contained a paragraph of appeal in these words:

"On what ground was it said that where there are three physicians there are two athetists? Is there something in anatomical and physiological studies, as well as in constant familiarity with disease and death, which inclines them to unbelief?"—*Editorial in the Churchman, Nov.* 16, 1878.

We deny the proposition. On the contrary, we affirm that of all men, the physician is best prepared to declare over the dying man, "Here passes by something more unsearchable and illimitable in its kind, than all matter is, in extent."

The London *Lancet* of June 21st, 1879, rings out in trumpet tones:

"This is an epoch, wherein it is undoutedly desirable—we would go farther and say necessary—that men of science who are not utterly without belief in anything outside and beyond the materially evident, should possess the courage of their convictions, and speak out boldly."

The historian of an after age will stand in astonishment before the extraordinary and far-reaching influence, throughout the science and literature of this period, of the theory of evolution, as formu-

lated by Darwin, and illustrated by Haeckel. To have so permeated human thought and modified scientific conception and even terminology, within such a brief period is a marvellous achievement of intellectual power, and a superb testimony to the modern intercommunication of knowledge.

The seed dropped by Lamarck in his theory of the transmutation of species, after lying dormant half a century, has been so cultivated and trained and nursed by such spirits as Darwin, Wallace, Huxley, Tyndall, Lyell, Spencer, and Haeckel, that its growth to those who delight to hide under the branches thereof, has obscured the sky of moral existence beyond the physical, and even the sun rays of a creative God.

It is impossible to deny the fascinations of the theory of development—of natural evolution—or Darwinism, or the monistic philosophy, as Haeckel prefers to term it. It presents a panoramic agreement with (such) a vast assemblage of facts associated with the morphology of organisms. It is (so) pleasing to many minds, to be shown that the reign of law is everywhere only the kingdom of the strongest chance, but man is after all master of the mysteries around him. It is so plain, everything being reduced to mathematics, that heredity, plus adaptation invariably produces the unknown sum in species. There is a glow of satisfied curiosity to perceive that x, varied in term of y, will become z, even though the fact stare one in the face that sometimes it proves to be u or w, and all our logic is vain.

With the keenest and most subtle appeal to hidden self-love, modern philosophy would outstrip the pagan, and make man greater than God, for endowed with only finite power, he has developed himself.

I need not engage in lengthened review of the great doctrines of evolution. Day after day the press teems with the catchwords of the unborn faith which denies the reality of the accumulated knowledge of the past.

We may justly wonder at the treasures of learning, and the burning zeal, of such investigators as Darwin, and we may admire, with the reading world, the loyal honesty and unflinching perseverance with which they advocate a dreary and barren philosophy.

It is not necessary to remind you that accepting the struggle for

existence as a starting point, Darwin explains the survival of the beings most fit to play their part and to propagate their kind with given surroundings, by the principles of what has been termed natural selection, and consolidates the results obtained by heredity; and introducing the due limitations of continuity, permanent character, divergence and modified heredity, he would thus exhibit and demonstrate the adaptation of beings to all surroundings; the localization, perhaps, of some, and the expansion of others, with the modifications imposed by the laws of compensation and economy, and the principles of the correlation of increase.

Thus has he woven a theory, which every impartial student must admire in exquisite points of detail, and respect in its stupendous majesty, as a grand conception of the human mind.

Some of these deductions must be acknowledged to be measurably true, such for example, as the struggle for existence, and a selection as, in part, a resultant of this; although, as we shall see, it is but a partial and incomplete philosophy, which cannot discern other elements of control, in the play of forces.

Let us at once declare that we cannot quarrel with whatever fact Darwin or any other evolutionist has discovered. It is not against natural truths that those who worship a God of nature, can battle. Every absolute fact in natural history, in physiology, in embryology, or in sociology which they bring to light we shall welcome as a friend—as a child of the Infinite.

The law of the continuous succession of organic beings, by a development which exhibits nature at work in one perennial growth, may be true of physical structure within certain limits, and if true is in no wise inconsistent with Divine purpose and supervision, or the special endowment of man with the gifts of mind and soul.

But such is not the spirit of the materialistic philosophy, which ventures to measures man's spirit with the clod, which denies his relationship to his Maker, blots out personality, ignores the existence of soul, and refuses to recognize the very power with which it declaims against the Omnipotent.

It has left the simple task of learning the *order* of creation, to assume to declare its *cause*. Out of evolution it has erected atheism. It is not simply true that the new philosophy insits upon its own description of the method of creation, but in truth it denies

a creation at all, in the sense of a procession from a power higher than the blind atom.

Darwin does not hesitate to say, that it is to him probable

"That any animal whatever, endowed with well-marked social instincts, would inevitably acquire a moral sense or conscience, as soon as its intellectual powers had become as well developed, or nearly as well developed, as in man."—*Descent of Man*, Volume I, p. 68.

That he considers such development as a thing, of course, all his pages teem with evidence.

Haeckel repeats again and again with such triumphant boasts as the following :

"The 'moral ordering of the world' is evidently a beautiful poem which is proved to be false by the actual facts. None but the idealist scholar, who closes his eyes to the real truth, or the priest, who tries to keep his spiritual flock in ecclesiastical leading strings can any longer tell the fable of the 'moral ordering of the world.' It exists neither in nature nor in human life, neither in natural history, nor in the history of civilization. The terrible and ceaseless struggle for existence gives the real impulse to the blind course of the world."—*Evolution of Man*, Vol. I, p. 3.

As, on the physical side of the question at issue we find the same great leader affirm :

"It is indubitably established as the result of our objective scientific inquiry, that the human race is directly descended from the Apes of the Old World."—*Evolution of Man*, Vol. 2, p. 444.

So also he informs us :

"The mind" or "pysche" of man has developed together with, and as the function of the medullary tube * * * so the human "mind," or the mental capacity of the entire human race, has developed gradually, step by step, from the mind of the lower vertebrates."—*Ibid*, p. 451.

"The 'spirit' and 'mind' of man are but forces which are inseparably connected with the material substance of our bodies."—p. 457.

* * * * * * * *

The magnet attracting iron filings, powder exploding, steam driving the locomotive, are active inorganic substances : they work

by active force just as does the sensitive mimosa, when it folds its leaves at a touch, as does the amphioxus, when it buries itself in the sand,—as does man when he thinks,"

"In the evolution of man, no other active forces have been at work, than in the rest of organic and inorganic nature."

But the final outcome of the evolutionary philosophy, is to be found in such language as this, from the great biologist of Jena:

"There is no such thing as 'free will' in the usual sense. On the contrary, in the light of this monistic conception of nature, even those phenomena which we have been accustomed to regard as most free and independent, the expressions of the human will, appear as subject to fixed laws as any other natural phenomenon. Indeed, each unprejudiced and searching test applied to the action of our 'free will' shows that the latter is never really free, but is always determined by previous causal conditions, which are eventually referable either to heredity or adaptation."—*Haeckel, Evolution of Man,* Vol. II, p. 455.

The greatest of the evolutionists thus declares the logical conclusion of his theory. And where does that lead us? If there is no such thing as free will, and all phenomena are without moral character, all distinctions in human conduct disappear; right and wrong vanish away; conscience is a fiction; criminals are punished without logic or reason; society exists at all, only by the sufferance of the strong. And if every man may do what seemeth best in his own eyes, upon the plea that heredity and adaptation so constrain the machine within him, what is to save mankind from chaos; if these astounding doctrines are true, and being true, are accepted by the ruling mind of the world, as truth must be sooner or later.

But, however, deplorable we may regard the consequences of the acceptance of the belief that man is merely a mass of organized matter and nothing more, this belief with all its destructive results must be logically received, unless somewhere there be a fatal defect in the theory and reasoning of the evolutionist. It is when we calmly consider that question, upon purely scientific grounds, that one is astonished at the assumption which can maintain such theories, by the persistent study of, and reasoning from, one set of facts, to the utter neglect of another class of truths which have at least equal claim to recognition.

Goethe has well said

"Nothing is more frightful than active ignorance."

Dr. Peabody, of Harvard, on this point very justly says:

"Hypothesis is, of course, not science, though it seems as though scientific men sometimes think that it is. It may be reasonable and likely, but if large portions of the laws or phenomena which it ought to include are inaccessible, by reason of time or space, it is beyond the domain of science. It cannot be employed in argument, and has no validity as against ascertained facts.

"In these days Christianity is set aside, and the being of a God ignored chiefly in the name and at the behest of theories, which if destined to live, are still on trial for their lives, and are not unlikely to follow the long line of their predecessors into an unhonored oblivion."—*Article in Princeton Review.*

Let us ask some questions of those who hold and proclaim the doctrines of the materialists, and affirm the self-existence of organisms. They are as old as the theories of the monistic philosophy which are but echoes from the ancients after all.

Was indefinite power inherent in non-living matter to become living structure when it chose?

Can any combination or adjustment of atoms render the non-vital, a vital body, except it pass under the control of matter endowed with the vital property? And when the combination breaks up into its organic elements, that we know full well, is the act of death.

By whatever power the universe was wrought, was there not a period when dead matter had to receive a new property, and once given, can it repeat itself without the action of the same power?

If matter under the influence of any of the non-vital forces, did assume life in the beginning of things, why is not that miracle repeated all around us, and everywhere? Yet what art can construct a single cell? Who can show us albuminoid compounds or any other combinations taking by force the mystery of life, or receiving it other than as a gift from some practice endowed with the wondrous secret of constructive force which we term vitality?

All the skill of man and the wealth of the world are powerless to call into being a single cell.

Mivart, himself, no small contributor to our store of information,

acknowledges that the origin of species cannot be explained by the action of natural selection alone, in eliminating variations unfavorable to survival, so long as their occurrence takes place as it were, at random, but that there must have been at least a preponderance in one definite direction, impressed upon these variations, through some laws as yet unknown. And what is that, after all, but the admission of directive power?

Do the facts so laboriously accumulated, and marshalled with such ingenuity, authorize us with certainty to predicate that modification will proceed in a given direction, indefinitely for ages, without turning to right or left, until one species shall by transmutation, have become another? Is this susceptible of demonstration, or is it imagination?

Quatrefages has happily asked:

"If harmony is once established between organisms and their surroundings, could selection result other than in consolidating and preserving it?"

It is familiar to all, that nothing but the greatest care can preserve the acquired forms in any given species, which have been artificially developed by man. On the contrary, all experience proves a return to the original type as soon as conditions favor.

Is there not a mountain of difficulty which has never yet been levelled in the very existence of species? While using the term and professing even to account for the origin of species, materialists elude an inquiry into its essence, and avoid a precise definition of the word.

It is no answer to raise a clamor over the differing views of naturalists in assigning place and relationship to obscure and doubtful forms of animal or vegetable life. The primary laws of physiology have set the organic bounds. Variations or races of one species, may develope mongrels freely among themselves, or when conjoined with the parent stock, but between species, there is mutual sterility.

Quatrefages, the eminent professor of anthropology in the Museum of Natural History of Paris, justly inquires:

"Whence arises the sterility which separates species?"—*The Human Species*, p. 100. If the theory of evolution can account for all the facts before us, pray tell us at what point in its history

does a developed variety cease to be fertile with the parent species, and thus put on the full toga of the individuality of its new kind? Who, indeed, has witnessed such a phenomenon?

Darwin's answer when questioned upon the mutual sterility of species, one of the primordial facts of natural history, is that it "has been produced incidentally during their gradual formation, and is connected with some unknown modification of their organization."

Again let us ask if this is science, or is it imagination?

It requires not only the possibility, but the absolute certainty of this transmutation, to form the foundation of the great superstructure of evolution.

Once more, Quatrefages declares, that if we ask for any example of the links which ought to unite parent species with their derivatives, according to the theory of the evolutionists, they cannot exhibit one. "They admit their inability; but they reply that the extinct fauna and flora have left very few remains; that we only know a small part of these ancient archives; that the facts which favor their doctrine are doubtless buried under the waves with submerged continents, &c. And Darwin with Arcadian simplicity, says: 'This manner of treating the question diminishes the difficulties considerably, if it does not cause them to disappear entirely.'" *Ibid*, p. 101.

Have we a right to regard a problem as solved, for the very reason that we have not the necessary facts for its solution?

Again, how is the Darwinian theory to explain the isolation of groups of specific animals in various quarters of the globe, from the earliest ages of the world? How is it, that there is no elephant in South America, and no sloth in Africa, no camel in North America no poached annimal in Europe, no giraffe in Asia? Why, indeed should there have been no cosmopolitan mammal in existence, man excepted, unless we rank as such the whale of the great seas. With soil and climate, with comparative latitude and moisture, altitude and temperature so much alike in numerous instances, who can point out adequate environments, in the language of the day, to establish these rigid lines of organic order?

To the declaration that no new animals are known to have been developed from any existing species during the period in which man has preserved a historic record, it is replied that for the great work

of evolution, indefinite and unlimited time may be assumed, and thousands of million of years if need be, are discussed as probable, with a fine contempt of less imaginative minds.

But at this point, another class of scientists step in to protest against such wild vagaries. Physicists like Sir William Thomson, Prof. Tait and others point out the many indications of the cooling of the earth, with the probability that if we could retrace its history, from the present rate of cooling, its mass would have been found to be a molten globe at white heat, on the very threshold of the long geological period demanded by evolutionists.

Again they tell us that there is reason to believe that the rotation of the earth on her axis is less rapid than formerly, and if we assume the immense increase of rapidity required to project its formation so far back in time, it could not in its molten condition have assumed the shape in which we know that it is modeled. Others again point to the enormous loss of caloric from the sun, and reiterate the declaration that terrestrial time can not have existed, as required by the hypothesis of evolution.

Not to linger by the way among many inquiries springing up at the intersection of all the sciences with evolutionary theory, and all unanswered by the materialists, which will so readily occur to you, let us consider for a moment the proposed genealogy of man.

Haeckel announces that

"The human race is a branch of the catarrhine group; man was developed in the old world, and sprang from apes of this group, which have long been extinct."—*Haeckel, Evolution of Man.*

Darwin, indeed, assigns the ancestor of man to the group of catarrhine apes with tails, thus reducing him to a place below the highest order of apes to-day.

By the hypothesis of Haeckel as developed with infinite labor and marvellous ingenuity in his *Evolution of Man*, there are twenty-one stages between the formless floating bit of protoplasm which he terms the *monera*, an albuminoid compound of carbon, up to a hypothetical pithecoid man, who had not speech, nor perhaps, development of self-consciousness.

We have neither time or inclination to follow him through the windings of the ascending labyrinth. It is enough to remind you that he is driven to place in some of the stages purely imaginary

creatures such as the *sozoura*, and the *gastræad*, and altogether has arrayed before us a panoramic display of the imagination of the very mind that he ignores.

But there is one detail of anatomical interest, which so illustrates the hasty reasoning and the credulous acceptance of whatever seems to favor the theory of evolution, which marks some men of science, that it may be of interest to pause and observe upon what uncertain data a great biologist may poise himself, for insolent scorn of those whom he conceives too blind and ignorant to follow him to the wells of truth.

Both Darwin and Haeckel derive man from the apes, or *simiæ*, which they connect next in the downward scale with the *prosimiæ*; that is to say, animals of the type of the lemur of Madagascar, which has a superficial resemblance to the ape.

It should be noted that the declared basis of comparison throughout the series which Haeckel presents as our true genealogy, is the *embryogenesis*. It is the development of the embryo, that is, the one thread which leads him step by step back into the council of the Fates.

Accordingly, we recognize the division of all the mammalia into the non-placental or marsupial animals, and the higher placental. Again, all the placental mammals are divided into those possessing only a simple diffuse placenta in which the tufts of the blood-vessels appear upon the entire surface of the fœtal envelop, like that of the whale or the sloth, or the ruminant animals; or those which have a double placenta, half being derived from the mother and half from the fœtal envelope, the membrane uniting these, being known as the decidua.

Rising higher in the scale, the deciduous placenta may assume a girdle like form (zonoplacentals), or may appear in disc-like shape (disco-placentals) which is the higher form that we find in the rodentia, in apes, and in man.

Haeckel has placed the lemur-like animals in our ancestry, and among the disco-placental animals, with the highest class of the deciduata.

He has been so impressed with the importance of this group as to conclude that the ancient home of the first men was in some vast continent now submerged under the Indian Ocean, and which he

entitles Lemuria, the animals of the lemur type being confined to its islands and adjacent coasts.

But unfortunately for the theory, lemurs brought from Madagascar by Grandidier, have now been examined by competent anatomists, who tell us that the lemur possesses only a single diffuse placenta like the sloth or the whale, and does not belong to the deciduous group at all, much less to its highest division.

Again we ask, is this science,—this eternal round of affirmation and argument based upon the unknown ?

It may be answered, that Haeckel was simply mistaken in his genealogical arrangement. Certainly it is a matter of slight importance comparatively, as to what are the precise links in that chain, if it is veritable truth that we are bound irrevocably by it, to the ape, the worm, nay, to the filth of the gutter as one and indivisible with us, in essence of being.

But I have taken, perhaps, too great a liberty of detail on this point, in order to sound a warning against a too ready acceptance of even what are supposed to be the facts of evolutionary science. Time will doubtless reveal the hollow charater of much that is yet a fair and pleasing show of truth.

We need not feel any sentimental dislike to the idea that we have descended from apes, if it can be shown that the Creator who made us of the dust of the earth ; that is to say, our mortal bodies out of the chemical elements about us, chose to prepare that animated dust by ages of animal life. There can be nothing intrinsically degraded in that which a God has fashioned into being.

We need not trouble our minds concerning the dignity of our ancestral line, or its humility, and may cheerfully, nay reverently accept it, when proved, as part of His work.

But the primary question is, has it been proved ?

Even upon the examination of the physical frame, we must deny it.

It is a principle of the highest importance to evolutionists, that no organized being can be a descendant of another whose development occurs in inverse order to its own. It is evident that a turning back from the direction assumed by the evolutionary forces at random would reduce all things to chaos, or if the reversal were the result of adaptation, the result reached must be a degradation instead of elevation and development of the original type.

But a reversal of the *order* of development is emphatically the case as between man and the apes. Not to accumulate details, let us observe, for example, that the sphenoidal angle of Virchow diminishes in man from the time of his birth, but in the ape it is always increasing throughout life.—*Quatrefages. The Human Species*, p. 110.

But as especially in point, let us note, if we appeal to the embryogeny which is the rock and fortress of development, that in the ape, the temporal sphenoidal convolutions which form the middle lobe of the brain, not only appear, but are completed before the anterior convolutions which form the frontal lobe. On the contrary, in man the frontal convolutions are the first to appear, and those of the middle lobe, make their appearance later, as is familiar to biologists.

Huxley has fairly acknowledged, that "every bone of the gorilla bears a mark by which it can be distinguished from the corresponding human bone."

No where upon the earth, or under its surface has any trace of ape-man been found. If we grant eighty thousand years to the anthropologists for the term of man's acknowledged life upon earth (for no one contends for the reality of the old time supposed chronology of six thousand years,) and if we examine the skulls of the cave-dwelling man, or the lake-loving inhabitant of Europe,—he who lived when the mammoth and the cave-bear, the hyena, the aurochs and the rein-deer roamed over the plains of France and Germany, we shall find in them nothing resembling the ape.

However distinct the racial characteristics in that elder man, who lived so long before the historic period, who has left his rude sculpture and drawing, his implements of stone, the remains of his dwellings and his feasts, and even the trophies of his marksmanship behind,—always and forever, it is the skeleton of man that is before us; rugged, strong, and savage-like doubtless, but indubitably man.

In the oldest remains of man which are now even assigned to the tertiary period, nothing whatever appears to bridge the enormous chasm in structure between the best of apes and rudest man.

So wide is the difference that if the volume of brain of the anthropoid apes be represented by ten, you are aware that that of the

savage man would be twenty-six as an average expression, and in civilized mankind, it would reach thirty-two.

We need not linger upon minor difficulties, such as the development of a walking animal out of one who already possessed the power of climbing, or the loss of the covering of hair upon the back, the most unprotected part of the body, and the forlorn condition of the human infant, the most helpless of beings for so prolonged a period, armed only with a cry to awaken the better part of man.

All these things are mere subsidiary questions. The *physical* difference between man and any form of the brute creation sinks into insignificance when we consider that which our fathers firmly believed to be the immortal part, the mind and the soul.

Materialists, it is true, assert that these have no existence except as functions of the animal body, and die with it, thus placing conscience on a par with the saliva, or the highest sense of moral obligation, and loftiest devotion to honor, on the same plane with the bile.

Nothing is to be recognized as existing except that which may be measured with the five senses. What! We may willingly accept the evidence of one or two senses involving the special action of portions of the brain, and cannot receive as true the knowledge which the whole consentaneous action of the brain has attested among all men, in all ages.

It is pleasing to trace the web of ratiocination by which Herbert Spencer would spin the moral endowments of man from the social instincts of the brute. To the ingenuity which has wrought out the conception, we must award our admiration, but again do we return to our question; is this science or imagination?

If this enormous transition from instinct to morality has occurred, it must have been an event of exceedingly modern date in the history of development, it must have been, we repeat, one of the recent, indeed the greatest of recent evolutionary changes, and yet no race on this globe where man has been found master of its remotest wilds, has ever been discovered in an intermediate mental condition, between man and brute, as a relic of its occurrence, nor does tradition point to any such event.

The earliest men, according to the legends of their fathers, have

everywhere descended from the gods; not ascended from the beasts. It is freely admitted that savages, however degraded and forlorn, have always human capacities and may be educated in a manner and to an extent, of which any animal whatsoever is incapable.

The entrance of that principle, which we call the moral sense, and for the existence of which, against the dreary negation of the materialist our consciousness contends, changes the whole aspect of creation. The consciousness of personal existence which every man bears in his bosom, the sense of right and wrong, the ever present feeling of dependence upon a power higher than self, change the relations of the Creator to the creature.

The blind following of immutable attractions which the evolutionist preaches, (and which is nothing but the ancient dream of Empedocles, to explain all things by the workings of affection and strife, which were his names for the modern attraction and repulsion) is now replaced by obedience in willing service to the power higher than man "which maketh for righteousness." This introduces prayer as a possible element in the moral life, and if possible, Tyndall to the contrary, it becomes obligatory upon the creature to seek intercourse with the Creator.

This feeling of dependence is asserted in the testimony of all human history. All mythologies, from Buddha to Jove, from Astarte to Odin, attest that wherever man is, he conceives, like the Indian, a Great Spirit in the element about him. In proportion as our knowledge extends from year to year, among the obscure races, is this truth more absolutely verified. Man did not create this feeling, and its universality proves that it has not been reached by a process of reflection among the higher races. Is it not rather the signet of God upon all the creatures to whom he has given a spark of the Divine essence?

Prof. Allman courageously declared before the Biological Section of the British Association:

"All science is but the intercalation of causes—each more comprehensive than that which it has to account for—between the great primal cause and the ultimate effect. For the cause of these causes we seek in vain among all the physical forces which surround us, until we are at last compelled to rest upon an independent volition—a far-seeing intelligent design."—*Prof. Allman's Address to Biological Section of British Association*, 1873. *Quoted in Littell*, 1652.

Wallace has very pertinently asked: "How could the struggle for existence, the victory of the most fitted, and natural selection give any aid to the development of the mental faculties, such as ideal conceptions of space and time, of eternity and infinity, the artistic feeling, or abstract ideas of number and form?"

Nor can a moral sense in the savage be accounted for by philosophic considerations of utility, individual or collective. How shall we explain the Indian's determination to endure the stake, rather than forfeit his word?

Truly, Plutarch spoke well, when he declared that you cannot find a city without a temple!

A fine thinker remarks:

"As the theory of evolution stops of its own accord at the origin of all things—at the primary mystery of life, so it stops, against its will, at the mystery of life everywhere.—*Rev. Wm. Kirkus' Sermon at Mt. Cavalry Church, Baltimore*, 1877.

Within every one of us, there are forces other than mechanical. What we call the will, defies analysis, and stands out as a distinct element, not a mode of motion, "or a form of solar heat. And history is a record of what has happened when the living *will* of each individual comes into contact with nature and with other *wills*."

But the materialist with a fine scorn of knowledge which has not been weighed in scales, or demonstrated at the point of a knife, demands, what is mind—what is soul—what after all is life?

The honest answer must be, we do not know what life is, but must we therefore disbelieve its existence?

You believe in gravitation, O scientist, but can you tell what is the essence of that harness of the coursing planets to the chariot of the sun?

Do you understand how the play of the waves of ether in magnetism holds the solid steel against that planetary force which you call gravitation?

Why deny the special quality of life, when before us it pumps every ounce of blood in perpetual warfare against that gravity which you accept, and even lays its hand upon the play of chemical affinity, until the hour of doom has struck?

Alas, there is only too much in science, even as you acknowledge it, which in truth we do not know, in the sense of physical demonstration.

Have we not seen the most cherished hypotheses, and the facts best established as men supposed, vanish away like a vision of the night, and leave not a wreck behind?

What do we know to-day of the absolute truth of the notation we employ? Are the elements one or many? There are those who claim that all are forms of one.

Can astronomy number all the stars, or furnish a conception of the shape of the universe?

Can we follow with our senses the undulations of light, with their mathematical demand for millions of vibrations in a minute; or on the other hand, have we ears or mental perceptions attuned to the possible effect in nature of vibrations synchronous with centuries, and playing upon space as upon the harp of fate?

In our own bodies, what do we know of the genesis of nerve-force?

And we ask concerning the great problems of the very existence of space without matter occupying it, which some men of science deny, or of the origin of matter, the beginning of force, the possibility of natural law?

It lies not in the mouth of exact science, to demand of us, what is the soul of man.

On the contrary, it is evidence of the highest science, to accept the existence of man's spirit, as a gift from a Divine Father, as the only possibility of explaining the moral phenomena of life and history, which physical law is powerless to control.

What! will you tell us that the floods of poetic power which surged through the brain of Milton as his blind eyes saw the grand drama of Paradise, was in no wise different from the force that dashes the sea wave upon the shores of the Cape Fear; or that the wise words of Hippocrates were as much the mere play of atomic movement, as the restless current of the Blowing Rock of Watauga—with no more of personality in the bard or the sage, than in the salt waves and the streaming wind? Is it so—then of the unnumbered millions of earth, why have we had but one Milton?

Yet a great man, who stands in the front rank of psychology to-day, and whose authority is esteemed of the highest rank, not only among specialists who treat the insane, but throughout the medical world (I refer to Maudsley) has lent the keenest weapons of his acute intellect to the service of materialism.

In his view, the will is nothing but the appetite or liking put into action after deliberation, and is the necessary result of the combined operation of the several conditions of sensation and feeling which have preceded.

Are men, therefore, not only physical, but mental and moral automata, played upon by the winds of blind force, like to the fitful strains of the æolian harp in the evening breeze?

Then indeed, is immortality a dream, God a fancy, and all before us—a void of annihilation.

Maudsley declares:

"It would appear that the doctrine of free will, like some other doctrines that have done their work, and then, being no longer of any use, have undergone decay,—was necessary to promote the evolution of mankind up to a certain stage. * * *

The notion of free will and its responsibilities was necessary therefore, and perhaps still is, to make for him a higher necessity than the necessity of his passions, but it does not follow that it is necessary for him whom Confucius would have described as the sage or superior person, who looks to the endless consequences of his actions."

Alas to what do "the endless consequences of his actions" amount, if there is no line between right and wrong, no sense of duty and endowment of will to fearlessly choose it.

Was it a mere animal liking, put into action after deliberation, that tore Regulus from a desparing wife's embrace, and impelled his weary feet back to African torture and death? See him plead with a Roman Senate, for his country and against himself. Aye, let us learn even of pagan Carthage, how to believe in the sentiment of honor in man, and a will beyond an appetite, even of life.

Have we no parallel in modern times? Was it base appetite in the soul of Robert Lee, when with heart wrung in its inmost fibres, he bade farewell to the comrades of a life time, and to the traditions of a past illumined by his ancestral history, to carve out another destiny for himself and his people, under the Southern Cross. What made it possible to that heroic spirit, to raise the sword against a thousand friends, but the sublime exaltation of soul in response to the call he recognized, of the highest duty?

Was it for a liking that Sir Thomas Moore laid his head upon the block?

Was it appetite that gave *will* to the dying Sidney to refuse that cup of water, when he saw another's need greater than his own; yea, even, though it were more precious than all the diamonds of the East?

How many pages have we in these days, to explain and exalt the mind, and the affections of the *lower animal* kingdom, while the lofty abstractions of Truth and Goodness are passed by!

Carpenter has, perhaps, more than any other medical writer, exhibited the part played by automatism in our wondrous framework. Such, for example, is the primary automatism which is displayed in the ceaseless beating of the heart, and the performance of many animal functions, wisely secured from neglect, and operated without calling the brain from its task of response to the mind where the will is brought into action.

Akin to this is the secondary automatism which he recognizes in the educated coördination of muscular action, as in the art of the rapid penman or skilful musician.

Nor can we deny that there are lower mental processes which partake of the same apparently mechanical character, as when one copies a manuscript, or continues to count and record, while he answers at the same time with intelligence, questions in no way connected with his labors.

But in the highest manifestation of power, Carpenter concedes, and even insists upon the causative power of the human *will*, and the self-determined condition of the individual man in the exercise of that will, and appeals to the evidence in the common consciousness of mankind.

The theory of the possibility of unconscious cerebration comprehends such mental action as takes place when the sensorium is in a condition of torpor, or is non-receptive as regards sensible changes, and therefore may be viewed as analogous to automatic muscular movement. This doctrine is only another effort to peep behind the curtain of the mysteries perpetually associated with the human brain.

Science is daily triumphing in discovery among the objects around us, and the new path of to-day leads to fresh fields to-morrow. Why should we imagine that we have numbered all the faculties of the mind, or dream that we have yet fathomed the capacities of the soul?

Many phenomena go to show that the mind possesses working powers which can combine and even devise, without consciousness; at any rate, we have mental results presented to us, without our cognition of the steps leading to the same.

Observe for example, that after the anxious search of fifteen years, Sir Wm. Hamilton tells us that the brilliant mathematical discovery of the method of *quaternions*, was suddenly and even instantaneously revealed to him, while walking one day, engaged in other thoughts; and that it happened just as he reached Brougham Bridge, on the 16th October, 1844. The precise spot and moment of this mental achievement are fixed. The whole history of scientific invention bristles with such facts.

If unconscious cerebration is true, if the mind may sometimes labor without a record in the consciousness of the passing minutes, is it not possible, that as concerning thoughts yet farther removed from sensible impressions, the spiritual element of man may wing its way into the infinite; or at least if linked and bound in a mysterious way to its yoke-fellow, the body, during this life, it may yet be empowered to reach forth and grasp conceptions beyond the scope of the lower, material organism?

Thus, the idea of time is presented, and to the mind the multitudinous seas of eternity appear—but our feeble senses do not follow, no more than they can count the infinite in number, or span the infinite in space.

Not a few among able physiologists assert that we have no satisfactory ground for concluding that cerebral action covers the whole domain of thought and the phenomena referred to the soul of man.

It has been happily said

"Those things that we love with the purest and most perfect love are invisible. The soul, itself an unseen presence, opens its affections most fully towards unseen realities—to the beauty of the spiritual life, to the character in the face of a friend, to Him whom having not seen, we love! The hearth of our abiding friendships and immortal joys is in the unseen world!"—*Newman Smyth, The Religious Feeling*, p. 170.

Startled by the advance of the materialistic philosophy among the medical men of a certain section of opinion, the *Lancet* builds a triumphant defence of faith from the stand-point of their own philosophic position.

"The larger part of mankind would not exhibit faith, religion would not be found to become increasingly spiritual with the growth of intellect in the development of races and peoples, and man as an animal would not be gifted with faculties, a mind, and aspirations, connecting his hopes and fears, his motives and his impulses, with another life and another world, if there were no other life or state of existence to call forth these qualities.

"It is a fundamental law of Realism and evolutionary Materialism that the developmental impulse springs from the surroundings. If these require the development of a particular organ or faculty, it grows in obedience to the need of circumstances, which acts as a stimulus.

This law applies to the development of faith in man, and to the growth of his spiritual nature, not less than to the parts of his organism. If there were no object to inspire and attract faith, that form of mental energy would not exist."—*London Lancet*, July 12, 1879.

(It is Goethe who has somewhere said)

"Truth need not always be embodied; enough if it hover around like a spiritual essence, which gives one peace, and fills the atmosphere with a solemn sweetness, like the harmonious music of bells."

The mystery of human personality is an absolute bar to the progress of the materialist. Who does not recognize the utter unlikeness, as a personal entity of any one of the millions of earth to another. I do not refer to physical appearance merely, but to mental and moral influence—that subtle something which confers an unbroken and continuous individuality.

Perhaps by none can this every day fact be more fully realized, than by the physician, whose daily work lies among the insane, those waifs of humanity, whose wayward minds are

"Like sweet bells jangled, out of tune."

If I may quote language applied by your speaker, on another occasion, let us inquire:

"Can the mind suffer disease? Then it is pierced with mortal taint, and will surely die, beyond hope of resurrection. Thousands of men come back to life and happiness, after what some would even call the death of mind. Why are they not new men, who have passed out of the insane wards, if the soul is a secretion of the

brain? How is it possible that each man, who has truly recovered, comes back to his own identity?

"Who has ever found himself or recognized another as a new being, gifted with a separate and independent mind, after the passage through a season of lunacy, even of years? Voice, expression, language, views, tastes, education;—whatever individualizes or differentiates one man from another, comes back to stamp him as such a creature of God, his Maker, and no other."—*Border-Land of Insanity.*

Even the Epicureans considered man as a distinct personal creation, the child of a personal God—and the provoking of human reverence for the image of ideal perfection in the unknown God thus shadowed forth, was the loftiest element of their philosophy.

The Stoic could not do without a Divinity who should ordain the fates, which it became man to obey, without a smile or a tear.

The Academic, in the spirit of the practical economist, sought a personal divinity as a foundation for religion of some kind,—for to him religion was essential as a bond with which to hold society and the State together.

It has been reserved for scholars and scientists living in the blaze of the nineteeth century, to deny the being of God, and the existence of moral duty. What is the effect upon lower minds throughout the serried ranks of teeming populations? Whence arose the spirit of commission, growling like the wolf, about every capital city of Europe, and only biding the hour of national calamity?

If men are taught by philosophers that they are indistinguishable in being from the brutes, why wonder at those who believe, and turn to their animal instincts, to live the life of the brute? Well may Haeckel writhe under the rebuke of Virchow, who revealed the abyss of social destruction under Germany, as by a lightning flash.

As the French Revolution was but the drama, of which the philosophy of Voltaire recited the prologue, so is the terrific phenomenon of nihilism in Russia to-day, the outcome of teaching which is wanting even in the morals of paganism.

Witness the spectacle of a people, who suffer some wrongs and deprivations,—but on the whole are advancing in personal freedom as rapidly as our English ancestors in their day,—listening to the

diabolic teaching of destruction to all things, even to the bare foundation of human society; hearkening to men who say that property is robbery, and that the strong have the right to slay the weak—and to women who fling scorn upon consecrated marriage, as an obsolete bar to the indulgence of passions, held in common with the brute.

Is this to what modern society is drifting, while it lulls conscience to sleep, with the poppies of natural selection, and atomic likes and dislikes, and its theories that all phenomena and all conduct consist purely of molecular movement under conditions immutably fixed by some fetish, termed the law of nature? An Arnold may sell his country, a Borgia may poison a friend, a Judas may betray his Master, and yet these deeds of darkness have no moral quality or tinge of guilt than the sweep of the butterfly's wing, or the smile on the lips of the sleeping babe.

Never,—this monstrous delusion must pass away. We know that we are personal things. We feel that to eat and drink, to play and sleep and die, like the animals about us, does not and cannot include the greater life—the inner world, in which we more truly exist. We know that we must account for the deeds done in the body, or else the fact of conscience is the deepest mystery imbedded in creation.

Walter Bagehot, (in whose untimely death we have lost so much,) who accepted the belief of the evolution of the lower creation under the control of a great Disposing Power, remarks in his essay on Bishop Butler:

"In every step of religious argument, we require the assumption, the faith, if the word is better, in an absolutely perfect Being; *in* by whom we are, who is omnipotent as well as most holy. If we grant this, the difficulty of the opposition between the natural religion and the supernatural religion is removed.

"It follows from the very definition of an infinitely perfect Being, that he is within us as well as without us, ruling the fears and thoughts of men, as well as the clouds of the air, and the fishes of the sea, warning with the pain of conscience as well as smiling through the smile of nature. If we assume this, life is simple; without this, all is dark."

Principal Tulloch, in a spirit of elevated philosophy, declares:

"If sin represents a fact in human experience, it cannot be explained as a transformed shape of some antecedent state of existence. Were this true, even though it were a morbid or a parasitic growth, it would no more call for remorse or penitence or judgment, than the gall apple on the oak or water on the brain.

"Yet the attempt to eliminate the consciousness of sin from human consciousness is as ineffectual as the attempt to eliminate the sense of cause and effect, or of hope and fear. It has been found in all ages, and developed as the life of the race developed. It is as universal, nay more so, than the feeling for art, the thirst for knowledge, or the life of the imagination.

"In the early history of every nation, there is a sense that its guilt or goodness will be shared by all. Then appears the doctrine of punishment for expiation, or of sacrifice. Finally, it is seen that sin and suffering are themselves distinct, and expiation is connected with a voluntary act of more than human love, rather than by the punishment of arbitrary victims.

"This exhibits an evolution of idea that cannot be a mere growth of *more* organized out of *less* organized structures, but rather exhibits a gradual revelation of divine purposes, but dimly discerned in the earlier stages of human life."—*Little's Living Age*, No. 1662, p. 181.

Up to this point of reflection, we have not considered any argument for the certainty of Divine existence and control, other than the appeal from the deductions of human reason.

But it cannot be believed that the all-powerful, and all-benificent Being, whom alone we can conceive as the God of such majesty and of such goodness as we see displayed about us, could have left his creatures without a distinct revelation of His will for their moral government, founded in immutable injustice and everlasting love.

It is not for me to essay the task of pointing out the authority of Christian Revelation by the variety of its historic descent, the godlike truths which it reveals, or the transformation of man which it effects.

A reverent faith in the works of the Son of Man harmonizes in everything with what we really know of his Father's works. Who can unravel the mysteries of motion with a more gigantic intellect than Newton?

Who was a more diligent student of physics than Brewster? Who a more faithful embryologist than Agassiz? Yet each and all of these have bowed at the foot-stool of God clothed with humanity.

Voltaire laughed at the Bible because it declared the existence of light before the creation of the sun, and esteemed his sneer unanswerable. Yet science assures us now of the creation of light, in the vibration of nebulous matter filling the whole orbit of the earth before the sun was condensed, and would fain prove to us that the arrest of the converging motion of a nebula like the sun would store up the reserve of solar heat, which is the fountain of force upon the earth. According to the latest theories, all the force upon our globe is but the changed motion given by God to His creation as he launched it into space.

May I be indulged in a brief extract from one who has well spoken the thought which your speaker would convey:

"One might as reasonably assert that the work of St. Helena was evolved out of the waves and a change in the weather, as imagine that the substantial and exalted faiths of Jesus and His disciples were but the products of the melting currents and changing fortunes of the world, against which they stood up with their firm certainties.

"Modern science chooses as its guiding faith the law of continuity * * * * * but the law of the continuity of mental and moral forces would be snapped, and history made a strange patchwork, if we were to suppose that the mind that was in Judaism ever produced the mind that was in Jesus.

"When I can see a rose growing in the desert, and forming its depths of pure color out of the grains of yellow sand; when I can see a wheat field ripening in the furrows of the salt waves; when I can believe that the villagers among the hills of New Hampshire with their wagons and pickaxes gathered the stones, and heaped up the massive peak of Mount Washington; then, but not until then, can I believe that the thoughts of the disciples invented the deeds and the glory of Jesus Christ; * * * * the Christ whose glorious majesty, still unequalled and illimitable, looks down our low estate, and proclaims itself to be the mighty work of God!"—*Newman Smyth.*

My brethren of the medical art in North Carolina, in departing from the usual address before your body, upon the familiar topics of medical history or of technical improvement, to ask you to consider the grave inquiries placed before you, I am obeying a voice from the grave.

Since you last assembled the sod has covered the breast of one of England's most eminent physicians, and one of the most devoted sons of science. An investigator of high distinction, and an editor of the first medical authority in the world, he left a last legacy to the medical profession, in the following lines, which he requested his brethren of the *Lancet* to publish, whenever angina pectoris should strike his death blow:

"I die a Christian, in the now, I fear, much despised sense of that term, a simple believer in Jesus Christ as a personal living and loving Saviour, without any righteousness of my own, but perfect and secure in His; and that 'I know in whom I believed, and am persuaded that He is able to keep that which I have committed unto Him until that day.'"

The touching comment by his editorial comrade, upon these solemn and pathetic words from beyond the veil, is written as follows:

"The physician who in his own person consciously bears about with him the poignard that shall put a period to his existence, even feels it sharp point at his heart; knows when and how it will strike him; sees the shadow of death thrown distinctly across his path, by each gleam of the sunshine so joyous to those around him. The man who being thus haunted, is not all his lifetime subject to bondage, must have that within him which surpasses mere human strength, or be steeped in a Lethe of forgetfulness impossible to understand.

"We know the treasures of knowledge acquired by such men are not lost, but their own share of the fruits of labor—what becomes of that? Why are they deprived of their reward?

"Questions like these will rise unbidden in the mind; in days of narrow-minded and short-sighted materialism, when scientists seem to exult in destroying the fond hope of immortality, while they have nothing to offer in the stead of this aspiration; when there is a growing disposition to scoff at all that lies beyond the horizon of sense, or outside Nature, and it is counted a triumph of intellect

to believe in nothing which cannot be demonstrated by the puny appliances and processes science has already discovered—it is unwise to rebuke these questionings of the inner soul of man, a veritable entity, albeit the principle we *feel* within is not to be laid bare by the scalpel of the anatomist, or brought under the physiologists here.

"In the name of science and humanity, let us have more of this spirit of hope and purpose and cofidence in the Future, for it enables men to bear the ills of life placidly, to do its work honestly and earnestly; it cheers the spirit in life, and helps it to gaze calmly on the dread visage of Death, and to meet him cheerfully in the hour of his triumph." * * * * —*London Lancet*, June 14, 1879.

"The time has come to speak out boldly on this subject, and we are persuaded the good sense and self-respect of the profession will approve the protest against that spirit of restless antagonism to the claims of religion which has unhappily obtained fuller expression in a small section of our ranks during the last few years, and which if not repudiated, must be expected to increase. * * *

We agree that the physician should not usurp the functions of the minister of religion, but he is forbidden by the spirit of manliness, to take refuge in the opposite extreme of moral cowardice, with a pretence of indifference."—*Lancet*, July 12, 1879.

These words, wrung from the aching heart of the friend and colleague of Tilbury Fox, strike the key note of that strain of thought, to which I have ventured to ask you to lend your sympathy.

Oh! it is not the physician, who daily walks among the mysteries that underlie all our social life, who sees the human heart bare in the very crisis of fate, who wipes the sweat of mortal anguish from the brow, who witnesses the punishment of God's own messenger in the remorse of the convict, who shudders at the depths of despair in the maniac's cry, who struggles by the new-made mother at the very jaws of death, and hears the entreaty of soul even though the thickenning terrors that enshroud that feeble body, as she cries, "Save my child, whether I perish or no!" it is not such a man, surely, who can believe that man is but a beast, and spirit but a dream.

The physician enters the inmost sanctuary of home-life. He is a partaker in its brighest hopes, or its most agonizing fears. He is

the confidant of its dearest secrets, and the stay and comforter of its darkest hours. How his heart rejoices with those whom his art restores again to health and strength; with the sufferer for long years, relieved by the surgeon's knife; or with the young parents filled with unspeakable joy at the music of the new-born babe.

How the soul is stirred in sympathy within him, as he beholds the maniac clothed again in the panoply of reason, and welcomed to a mother's bosom or a father's arms of protecting love.

Alas, the physician must turn from scenes of delight like these, to watch the step of the destroyer, noiseless and resistless, day by day; to see that pallid shade steal over the face of a friend, perhaps a life-long and devoted companion, to whom he must announce the sentence of departure; and when all is over, to mingle his grief with the orphan's sorrow, at the edge of the opened grave.

Dealing with the most solemn, the most mysterious and sacred problem of mortal life, and privileged beyond all others in the knowledge of the bodies of men around us, can it be possible that our task is wholly done, when we have wrought with our hands upon the body, like some artisan adjusting the wheels of some inert machine? Is it all, to physic or carve the body of man as a mere animal, regardless of his nobler part, like unto the jeweller who engraves his gold?

No, the noblest minds of the profession have ever felt that the moral influence of the physician is inseparable from his healing art. Not a few in our crowded towns, or in secluded country homes rarely attend Christian worship, and to them the face of the medical visitor is as the countenance of a missionary of good—the most elevated influence that reaches them, in the midst, perhaps, of ignorance, poverty or wretchedness.

The moral influence of the physician must be an enormous social force. It radiates by the bedside, and attends upon his footsteps in his daily rounds. By its purity and devotion to the loftiest interest of man, it will lift fellow-men to higher and nobler lives; or alas in its pride and vanity, it will deaden the faith and chill the hopes of those whose bodies he would cure.

Jeremy Taylor quaintly but beautifully said:

"And what greater measure can we have *than*, that we should bring joy to our brother, who, with his dreary eyes, looks to heaven

and round about and cannot find so much rest as to lay his eyelids close together—*than*, that thy tongue should be tuned with heavenly accents, and make the weary soul to listen for light and ease; and when he perceives that there is such a thing in the world, and in the order of things, as comfort and joy, to begin to break out from the poison of his sorrows at the door of sighs and tears, and by little and little melt into showers and refreshment? This is glory to thy voice, and employment fit for the brightest angel."

But the moral influence of the physicians of our land must be invoked, for its exercise on a wider plane than ever, for the preservation of society against the inroads of doctrines that threaten to reduce all limits and conditions, and all law human or Divine, to chaos. Since it is under the pretence of demonstration by anatomical science that materialism is preparing to rend asunder the bonds of society, a special responsibility has fallen upon the profession, to rebuke these plunderers of the heritage of faith, and with due humility, but unflinching courage, to defend the treasures of revelation and eternal hope.

The moral plague has already reached the shores of America, and unlike its physical prototype, finds its victims first among the cultured, and the men of great, if unsymmetrical learning. From the extraordinary freedom of our social economy, it must be expected to spread with more or less rapidity, and perhaps to reach an enormous development in the coming generation.

When a whole people shall believe, if the materialists succeed, that they are but special and elevated beasts, born of the ancestry of the brute, and destined to die the death of the beast, unto utter annihilation, then will they complete the logical chain, and live the life of the beasts that perish. Humanity sickens at the contemplation of such a world as would inevitably result.

Who knows but that this day which seems to us so full of excitement and excess and feverish unrest, years to come may be looked back upon, as the golden era of content! What indeed would become of whatsoever things are of good report, in an age which regarded the theories of materialism as the highest truth! What would be the wild pulse of a world lashed to fever heat, in the mere dread and terrible struggle for existence, that the fittest, that is the fiercest and most brutal, may survive!

What a dissolving panorama of the destruction of the noblest monument of man rises before the mind. Religion, literature, philanthropy and art slowly vanishing away—confidence leaving the marts of trade; humanity deserting the hospitals to loneliness and desolation; justice tearing the bandage from her eyes, and yielding her embrace to the strongest might, aye, and last of all, love no longer fed by the charities of life, bidding farewell to the households of earth, leaving the world, at last, the paradise of beasts.

In America, your profession stands at the head of the social scale. What greater work can it achieve, than to meet the *infection* on the threshold. This plague can do its deadly work, only through moral corruption. You, whose hands are dedicated to the healing of fellow-man, have the prophylactic in your charge. No higher duty can enlist your efforts through life. And in that final hour of your pilgrimage, on earth,—a pilgrimage devoted to the alleviation of suffering and distress—as you approach to put on that robe of immortality, which the materialist dreads more than he despises, there will mingle with the grateful prayers of relieved humanity on earth, the cheering announcement from the great Physician of souls, whose truths you have believed, and whose commands you have obeyed, "Well done, good and faithful servant; enter thou into the joys of thy Lord."

QUARANTINE.

Read before the 27th Annual Meeting of the Medical Society of North Carolina, held in Wilmington, N. C., May 13, 1880.

By E. A. Anderson, M. D., Wilmington, N. C.

As the season is now approaching in which the quarantine laws are to be put in effect, a few remarks upon their nature and application may not be out of place, especially as there is great difference of opinion as regards their utility and power in preventing the outbreak of epidemics.

Yellow fever always breaks out in towns and never in the country, no matter how marshy, swampy, or subject to malaria. Let a vessel with the yellow fever aboard, and with her hold brimfull of the West India atmospheres stop near the swampy shores of the Delaware or Chesapeake, the Balize (mouth of the Mississippi) and many thousand other places that may be mentioned, let her land her passengers or merchandize and no ill effects will result. Individuals who go

on board will possibly take the fever, but landing will not communicate it, the air being unsuited to its reception and diffusion. It is limited in the sphere of its prevalence, never extending beyond certain boundaries, attacking those who venture within these boundaries even in the absence of the sick, and sparing those who keep aloof. The absence of quarantine does not, notwithstanding the extensive intercourse with sickly ports entail the prevalence of yellow fever in countries unsuited and unadapted to yellow fever. The disease has never been conveyed to Great Britain, or, if so conveyed, has never been propagated, although passengers and vessels from the West Indies are there exempted from quarantine restrictions unless actually laboring under it, or unless the vessel itself is a focus of infection. Quarantine was enforced in Mobile in 1854 as stringently as the purest contagionist could well desire, and yet the disease broke out and prevailed to a small extent. During the lamentable devastation in 1847 and 1848 in Barbadoes, the intercourse between that island and Demarara which is immense, was not for a single day interrupted. yet the disease was not communicated, Demarara having been free from that scourge since 1845.—*British and Foreign Medico-Chirurgical Review*, Volume VII, page 58.

Quarantine has often failed: it was rigidly enforced at New York in 1822, and yet the disease appeared. In 1797 it was in full vigor in Philadelphia and yet the disease was not arrested. Dr. Ferguson states that at Martinique where they established a stringent quarantine particularly against Gaudaloupe, they were consumed with yellow fever; but at Domanique, Tobago and St. Vincent where they established none at all they had not a single case.—*Medico-Chirurgical Review* for April, 1840, page 394.

One of the most severe epidemics that occurred in the West Indies, was that of Barbadoes in 1847 and 1848 in which there was no ground to suppose that it was imported. Doctor Hort, formerly of this city, but at the time he wrote, of New Orleans, made a report to the Medical Society of New Orleans, and his report was unanimously adopted as the opinion of that Society. The main conclusions entertained in it were that at New Orleans, the yellow fever is a disease of local and not imported origin, not contagious and as far as it is concerned, there is no occasion for quarantine laws.

The New Orleans *Medical and Surgical Journal*, of November, 1867, states that the epidemic this year has been the most sweeping ever known in the history of the city, even infants at the breast having black vomit. The quarantine has been maintained throughout the epidemic at the mouth of the river and has been inoperative to debar the disease. It must be observed that in all countries in which quarantines are employed in their most rigorous and extended forms, the precautions which common sense direct us to employ against pestilence are neglected in as great a degree as the quarantine regulations are enforced. Severity of quarantine and laxity of sanitary rules appear to go together. A traveller landing after many days of detention, in most places, must be amused at the contrast between the care with which he has been purified, and the utter neglect of the inhabitants to purify themselves.

The *British and Foreign Medico-Chirurgical Review* for October, 1852, page 224, says: What then would we advise in regard to quarantine? Simply that if a vessel arriving from an infected port with no disease or symptoms of disease on board; that she be allowed to come up to her wharf at once, unload her cargo, and her passengers be permitted to go wherever they please. This is constantly done by rail, why not by sea? If an infected vessel arriving at a port, let her passengers who are well leave the ship, be sent to the lazaretto on shore, and her cargo forwarded to its place of destination in lighters. We think we have proved that in no instance can the disease be communicated by any cargo that is in a sound condition. By this, we mean goods that are not spoiled by damp, mildew or water, bricks, lime, iron, hardware, lumber, sound provisions, manufactured goods, &c.; but not putrid hides, rotten or spoiled fruits, meats, molasses or fish. Let the vessel be thoroughly purified, until all fever atmosphere has left her or remain at anchor until frost, then go wherever she pleases and take in cargo again. The pilot who takes the vessel over the bar, the medical officer and his boat's crew who visit her, mix freely with their fellow citizens and carry no contagion, why then detain healthy passengers and crews indefinitely? Surely if one set can communicate the disease, why not the others? and yet no one for a moment thinks of quarantining the health officer, his boat's crew, or the pilot.

During the late civil war after the epidemic of 1862, clothing, dry goods, provisions, army supplies, &c., direct from infected yellow fever West India ports and from vessels having yellow fever aboard then quarantined down the Cape Fear river, were daily lightered to Wilmington, and the railroads leading north, south and west, handled, opened and loaded on the cars, or dispersed through the city and adjoining country, and carried by rail to every part of the Southern States. The lighters and crews of the lighters were not quarantined, nor the laborers who unloaded the lighters, the steamers that towed these lighters to the city or the railroad hands who transferred the cargoes to the cars.

No fever resulted from this general diffusion of cargoes, and no sickness occurred among the laborers. Military necessity then taught us a valuable lesson which we have too soon forgotten. Although the quarantine has been in rigid operation since 1862 to 1880, eighteen years since the last epidemic, still yellow fever has not been kept out, for fully nineteen cases in the practice of four different physicians have been reported. True, it did not spread or become epidemic. The city was in a cleanly, healthy condition unsuited to receive or develop the fever, but the fever appeared in spite of quarantine. Our quarantine laws should be very much modified, and healthy passengers and crews of healthy vessels even from infected ports be treated with more consideration and humanity than is now the case. Even crews and passengers of infected vessels with yellow fever aboard, or vessels in which deaths from yellow fever have taken place, should be allowed to come ashore to the lazaretto, the sick sent to the hospital, the well after a reasonable detention allowed to leave, the cargo lightered up to the city, the vessel disinfected, allowed to come up the river and load for her port of destination. Passengers and crews should no longer lie at anchor opposite to marshy shores exposed to malarial fever, who, having escaped the dangers and storms of the sea, gaze with longing eyes on shores more inhospitable than the rude ocean they have left.

Near the mouth of the Cape Fear river, two miles from the village of Smithville and twenty-five miles from Wilmington is the quarantine station. This consists of a small one story house with four rooms, a fence immediately around the house; but none around the grounds about two acres in extent. It is open to prowlers

or visitors from the village of Smithville and adjoining country at all times day or night, both by land and water, and any inmate of the hospital can escape at his own pleasure without hindrance, no guards save the keeper whose whole time is taken up with the sick. A gangway, three boards or three feet wide, leads from a small wharf some eight feet square to the shore. At this wharf only a small row boat can lie as not even three feet of water is at the wharf. No warehouse for cargoes, no wharf for vessels, no separate house for the keeper, his family, or nurses, and no accommodations for passengers or crew. The keeper, his family and nurses occupy two rooms, the third is used as a kitchen and only one about sixteen feet square remaining for the sick; so the keeper, his family and nurses must live side by side with cholera, small pox, or yellow fever. No accommodations whatever for the well on board ship. They must live in an infected atmosphere indefinitely, exposed to disease from within the ship, and malaria without arising from the marshes opposite which the vessel is anchored, the west winds bring these exhalations constantly during the summer months from the land to the ship. Such is the quarantine establishment for the port of Wilmington, and such it will always be. An appeal was made last year to the city to construct suitable buildings and a small appropriation of some three thousand dollars asked for. It was refused on the plea that the city had no power to construct buildings in an adjoining county (Brunswick county). An appeal was then made to the Legislature, some three hundred dollars allowed, and the building remain as before, quite inadequate and unsuited to the necessity of commerce. Now as the city cannot or will not contribute the amount needed for its own protection, and the State will not, we must either remain without adequate protection, or accept the offer of the general government to take charge of the quarantine department, erect suitable buildings, wharves, warehouses, keeper's house and separate rooms and houses for the well who are kept under surveillance on shore. Pay a liberal salary to the medical officer in charge and all other incidental expenses. The medical officer in charge of our present quarantine, a most estimable, zealous and intelligent gentleman, receives two dollars a day, for the privilege of exposing his life daily in a frail boat on a stormy bay, boarding infected vessels liable to catch a disease that

may at any time hurry him to his grave; not the wages of a good daily laborer or mechanic.

When a vessel with yellow fever arriving in the river or a vessel with no fever, with a clean bill of health, but from any of the West India Islands or ports south of the Cape Fear river with the exceptions *perhaps* of Charleston or Savannah, she comes to the visiting station, is inspected, ordered to the quarantine station and there kept at the will of the quarantine physician, or the city physician of the city of Wilmington, or the Board of Health, or the mayor, or the citizens generally, or all combined, for four weeks, indefinitely until October or until frost. No vessel from any of the West Indies or ports south of the Cape Fear can come to Wilmington from the first of June to the first of October, a period of four months. All of our commerce from this quarter is cut off, and can only come by transhipment from some northern port. If a vessel with yellow fever comes into the river, she is brought to the quarantine station, which consists of the small building above described, lies at anchor, and her sick sent ashore in contact with the keeper and family or treated aboard; but the crew and passengers must stay on board exposed to the atmosphere of the vessel, and this indefinitely, until frost or four weeks duration from the last case of fever.

The vessel discharges her ballast and lies exposed to the weather which not unfrequently causes her more or less damage. Some three years ago the Spanish barque Elina came in ballast from Havanna to this port in search of a freight. She had one death from yellow fever, was quarantined, discharged her ballast, fumigated, rode out her quarantine and was permitted to come to the city for cargo by the health officer at Smithville. She was sent back by the authorities of Wilmington again to the quarantine anchorage, met with a gale of wind in the open roadstead, and being on top of the water, without ballast, which was discharged before she went up the river, fell on her beam ends, lay sometime in the water with the loss of her standing, running rigging and sails. She was sold for the amount of her salvage, and proved a total loss to the owners. The British brig Elinor came to this port last summer from a perfectly healthy West India island in ballast with a clean bill of health, was not permitted to come up to the city, but detained down the

river, her cargo of lumber lightered to her, and after vexations and delays, left Smithville, making a most disastrous voyage to her owners. Such is a sample of the vexation and unnecessary restrictions our commerce suffers from the present quarantine laws.

Yet as the community clamorously demand quarantine and *will have it* and it is useless and impossible to refuse it at least until they are educated up to the reasoning point, we should so modify it that it should be as little burdensome as possible. Every State, every port has its own local regulations more or less lax or rigidly enforced according as the popular or commercial element preponderates. Quarantine may be restrictive in New Orleans, Galveston, Mobile, Savannah, Charleston and Norfolk and lax in Wilmington or in any or in all of the above mentioned places. If the yellow fever can be transmitted what is to prevent its being carried by land from a port which is not rigidly quarantined to one in which it is carried out with Draconian severity ? It may be replied, quarantine the railroads. Now it is human nature to try and escape from a burning house, a sinking ship or a fever smitten place, and no human power—ingenuity or vigilance can prevent this first law of nature—self-preservation. Stop the railroad trains, steamers or vessels, you cannot stop the highways accessible to carriages or foot passengers. Stop the highway and public roads, you cannot guard the bye-ways and country or cross roads. The whole army of the United States is insufficient to do this. Always bear in mind that yellow fever introduced into a place unsuited to its reception or propagation, dies out and does not spread like a plant in a soil unfitted for its growth. Let more attention be paid to local hygiene, keep your cities in a clean, healthy condition and make their surroundings such as that they will not afford any chance to the spread of fever even if it should be introduced. Quarantine should be under the sole and indisputed control and jurisdiction of the general government, just as the commerce, foreign and coastwise, of the United States, just as the army and navy.

Let ample warehouses and wharves be erected at the quarantine stations for the landing and storage of cargoes to be lightered from infected vessels. Let suitable buildings be constructed for the keeper and family, and nurses, separate and apart from the hospital proper, and at a sufficient distance from the pest house proper, to be secure from any intercourse with the sick.

But let the hospital proper be of one or more single story buildings of one room each, in number from four to twelve, according to the number of patients expected. These buildings should be sufficiently isolated so as to guard against fire when one is burnt. They should be of the very cheapest and poorest materials, entirely of wood and covered with shingles, made of refuse boards, unplaned, not ceiled or plastered; but whitewashed, with high pitch and well ventilated, each room to be from sixteen to twenty feet square, with windows on the four sides. They should be furnished with wooden bedsteads, and ticks, filled with straw, plain wooden stools or benches and plain wooden, unpainted tables. After one or more of these buildings have been occupied, or after a case or many cases of epidemic diseases have been treated in them, the epidemic ceased and the buildings vacant either from death or recovery of those treated in these rooms; then apply the torch and utterly consume them with their furniture and bedding, then erect similar new ones ready for future emergencies. The cost of these pavillion hospitals being insignificant there would be no hesitation as regards their destruction or re-building.

Discharge vessel, take the passengers and healthy portion of the crew ashore, send the sick to the pavillion hospitals, cleanse and fumigate the ship.

Now, few, if any, of our cities can or will erect such buildings, and few, if any, of our Southern States, so we must either do without suitable facilities, or jog on in the good old way our forefathers did, like the classic dog in the manger, neither eat the hay or permit the horse to eat it, refuse to erect proper buildings or permit the general government to do it. Prefer to have our cities wasted with small pox or cholera rather than let the government assist us to keep it out.

Quarantine should be uniform for all parts of the Southern States or ports liable to an outbreak of fever. It should be under the direction and control of competent medical officers, taken either from the army, navy, or civil life. This officer should be guided by fixed rules eminating from head quarters, said rules to be drawn up and recommended by the American Medical Society, composed of delegates from all of the State Medical Societies, with a fair proportion of the commercial and civilian interest. The boarding

officer and medical examiner should have such compensation as to induce a man of ability and standing to accept this position, and not confine him to the pitiful sum of two dollars a day which is now allowed to most of our quarantine physicians.

His authority should be absolute, no interference allowed from local boards of health, city authorities, city physicians, common councils, aldermen, mayors, or meeting of citizens.

In this way and only in this way can a uniform and effective quarantine system be secured to the whole country, one that will protect and satisfy the people and not press hardly upon the commercial interests.

HIP JOINT DISEASE.

Read before the 27th Annual Meeting of the Medical Society of North Carolina, held in Wilmington, N. C., May 13, 1880.

By J. D. Roberts, M. D., Magnolia, N. C.

Mr. President:—There is no department of our noble profession that manifests a higher degree of practical improvement than that which comprises the treatment of diseases and injuries by mechanical means. The progress made in this direction marks a proud era in the history of American surgery. The inventive genius of our own countrymen in this line blazes a new pathway in surgical treatment, of which we can all afford to cherish a just and laudable pride. The improvement made in the treatment of *morbus coxarius*, or hip joint disease, by mechanical appliances are prominent among these American achievements and challenge the admiration of the profession throughout the world.

My object in presenting this paper is a desire to bring prominently before the profession of the State what I conceive to be the best plan for the treatment of this intractable and much dreaded disease. Grave in its nature, and long considered a special disease, requiring special treatment, our surgeons have been too prone to allow its care and treatment to pass into the hands of charlatans and the managers of empirical "Surgical Institutes," when we

might have treated it successfully at home, and with far more comfort to the sufferers and greater satisfaction to their families and friends. In view of this distrust, I have yielded to the advice of an esteemed friend in bringing forward a report of two cases, which have occurred in my practice. But, before introducing them, I wish to submit a few remarks pertinent to the general subject.

I do not claim to present any thing new or original, either on the etiology or pathology of hip joint disease; but rather to follow those observers of acknowledged skill and experience who have already explored the field. To give an exhaustive paper on the subject would consume too much time, nor is this attempted. For such an article reference should be made to text-books treating of diseased joints; here only those salient points essential for a clear knowledge of the subject are noticed.

In so doing I hope to be able to so present the subject as to convince every one that this disease, so fearful in its results, and so painful to its victims, can be treated successfully at home, without sending abroad to hospitals or surgical institutes.

The term hip joint disease, also variously known as *coxalgia, morbus coxarius, coxaria, coxo-femoral arthritis,* scrofulous caries of the hip, &c., designates a condition of the coxo-femoral articulation, characterized by an inflammation involving, in part or wholly, the synovial membrane, round ligament, cartilage, bony structure, and the adjacent soft tissues. The diseased condition may arise primarily, either in the cartilage, the acetabulum, or the head of the femur. In this paper, cognizance is taken only of the last named variety. While it is extremely difficult to diagnose the starting point of the inflammation, our text-books tells us that those cases arising from a morbid state of the head of the femur are in the majority. The origin is of little consequence, as the treatment in all varieties is essentially the same.

This is a disease of childhood, and claimed by most authors to be developed in children of a strumous or scrofulous diathesis. While such children are liable to the disease, it by no means follows that all hip joint cases are scrofulous for, in a large majority of them, (90 per cent. by Hamilton) the origin of the trouble can be traced to some local injury, some fall, hurt or over-strain.

Many writers, while admitting its traumatic origin, still claim that, in all cases, the diathesis of the patient, prior to the local injury, is such as to hold the system an easy prey to disease.

Prof. Sayre, in his lectures on this subject, lays particular stress upon this point, viz: that it is not really a constitutional disease, but that it is traumatic in its origin and should be known as a traumatic, as more *non-scrofulous* than *scrofulous*, children are afflicted with it, and all of these, and a large majority of the scrofulous cases, originate in some local injury. A robust healthy child runs more risks of getting falls and bruises than does a scorbutic or scrofulous one; and while he may sustain a greater strain or heavier blow without injury to the joint, still the hurt is often severe enough to set up inflammatory action. The average American boy of sound constitution, generally has such an exuberance of spirits as to lead him into all sorts of places regardless of dangers. Hence his liability to injury from accidents incident to his sports and frolics.

Having had no opportunity of dissection, my description of the morbid changes is from the pen of another. It is an inflammation of the joint, and as such, runs the usual course of inflammatory action in a synovial membrane. First, there is increased vascularity with effusion, followed by a granulated condition of the articulating surfaces. Soon pus appears, destroying the membrane by erosion, the cartilages are exposed and become softened, the epiphisis of the bone is attacked, and unless relieved will be destroyed. Ere this, the pus will have found its way to the surface. The first indication of hip joint disease is pain, generally first on the inner surface of the knee, but afterwards confined to the hip joint, usually more severe at night and rather paroxysmal. This pain at the knee was explained by Sir Benj. Brodie of being occasioned by the cutaneous branches of the obturator nerve being distributed in this locality, operating by reflex action, the nerve proper being involved in the joint. Its paroxysmal character during sleep is from the absence of the power of the will. While awake the patient can control the muscles, to some extent, so as to give relief to the diseased surfaces. But during sleep no such power can be exerted and the muscles permitting motion at the joint bring the diseased surfaces in contact, causing the patient to cry out with pain.

The second stage, in which there is an accumulation of fluid within the capsule of the joint, is characterized by increased pain, and apparent elongation of the limb, the toes are everted, the thigh is flexed, and the leg bent upon the knee. The gluteal fold is lowered or almost obliterated with an increased flattening of the natis, and the limb abducted. Finally the pain becomes almost intolerable, but is partially relieved by the capsule bursting.

In the third stage there is mobility of the joint, or rather the mobility is somewhat improved, as it may not have been entirely suspended during the second stage. Here we find a reversion of all the symptoms of the second stage.

For convenience in diagnosing the different stages, the following table is inserted, compiled from Bauer's table, with additions from the works of Sayre and Hamilton :

FIRST STAGE.	SECOND STAGE.	THIRD STAGE.
Pulse slight, more severe at night, and often referred to the inner surface of the knee.	Pain very severe in the hip joint.	Pain greatly diminished.
Limb slightly flexed at the thigh.	Limb flexed in both the thigh and knee.	Limb flexed in the hip, and possibly, though not necessarily, in the knee.
Feet parallel; but affected, one a little advanced.	Toe of affected side everted.	Toe inverted.
Movement in any direction limited, (i. e. rotation, abduction or adduction).	Limb rotated outward. Limb abducted.	Limb rotated inward. Limb adducted.
Limbs same length.	Limb apparently longer.	Limb shorter.
Natis drooping and somewhat flattened.	Natis low and flat.	Natis high and round.
Gluteo-femoral crease lowered and shallower.	Linea inter natis inclined toward the affected side.	Linea inter nates inclined toward sound side.
Tenderness and partial rigidity of the adjoining muscles.	Fixation of joint.	Mobility increased.
Limb begins to atrophy.	Progressive wasting.	Progressive wasting.
	Pelvis on diseased side lowered, projected forward, and the angle of the inclination acute.	Pelvis on diseased side raised, projected backward, and the angle of inclination right.

The leg is rotated inwards, adducted and shortened. Under

these circumstances, a cure without deformity is rarely accomplished. The appetite throughout is capricious, the patient loses flesh and becomes anæmic. The diseased limb is more or less atrophied. Unless relieved, he will, in all probability, become a cripple for life or death will end his sufferings.

The treatment of hip joint disease has been completely revolutionized in the last thirty years. Prior to that time, as he is even now occasionally, the patient was subjected to measures of a depletory character, both constitutional and local, by purges, blisters, setons, moxa, caustic applications, and even the actual cautery. Constitutional measures are advisable when the system is in an enfeebled condition, either from continual drain on previous cachexia; but tonic, rather than depletory, measures are indicated.

Perhaps no surgeon, American or European, has done more towards producing this revolution than Prof. L. A. Sayre, of New York city. To his studies in diseases of the joints, together with his inventive genius in perfecting and applying instruments for the last quarter of a century, are we indebted for the present advanced state of surgical practice in this disease. Commenced in 1855 by Dr. H. G. Davis, of New York city, it has been adopted in some of its variations by many surgeons, and has received an impetus from Prof. Sayre, who brought to bear on it a nature enthusiastic, bold an ardent. The medical profession owes Professor Sayre a debt of gratitude for his scientific teachings in diseases of the joints, and suffering humanity everywhere will bless him for his skillful efforts towards curing such intractable diseases. All honor to the noble man who has been so faithful in his efforts to alleviate pain.

Now that hip joint disease is better understood, and the fact that it is an inflammation is fully realized, and, as such, demands the same treatment as other inflammations, instead of the old plan of treating as a special disease, we can certainly treat it with more comfort to the patient and a better chance of success.

In the treatment of hip joint disease, three conditions are to be considered, viz: *rest*, *position* and *hygiene*. The various stages of the disease, and the condition of individual cases, may each demand different details in conducting the case; and of this, the surgeon in charge must be the judge. In giving rest to an inflamed

joint, we allow nature an opportunity to recuperate her exhausted condition, and also relieve the pain. This is essential in every stage and in all conditions. The more diseased surfaces must not come in contact with each other. Dr. Physic's plan of treatment, nearly or quite half a century ago, was to prevent mobility of the joint, which is followed in a modified form, by many surgeons of the present day. The objection to this is, that anchylosis is often produced, while it is desirable to cure with motion. Our object should be to give the joint rest, and at the same time, allow some mobility. This is accomplished by those portative instruments producing extension and counter-extension. Perhaps in the more inflamed condition of the joint, and at the beginning of the treatment, the best means of producing rest and position is by decubitus. The patient is placed upon a mattress and extension made from the thigh by weight and pulley. Adhesive plasters with narrow strips sewed to them are placed on the thigh, the strips reaching to or just below the condyles of the femur, the plasters being further strengthened by a roller. To these strips a cord is affixed which runs over the pulley at the foot of the bed. To the cord of which is attached a weight of from 4 to 10 lbs. This is also the manner of preparing the limb for the application of Sayre's short splint. It is often desirable to make extension from the foot. In that case adhesive strips should run from the ankle to above the condyles of the femur, so that the strain will not be on the ligaments of the knee-joint. Where night extension is necessary, it should be made from the foot, as last described. The position most desirable for the limb is in the axis of the body, but this often gives too much pain. The extension should be made in the direction of the most ease to the patient, which is in the line of the deformity, by moving the pulley. In this manner the first two indications are met, but not the third. Apart from the discomfort of the position, the patient's general health will suffer under confinement. Recognizing the importance of the third indication, many devices have been invented, by surgeons, for the purpose of allowing the patient the out door air. Wire-gauze, leather and gutta-percha splints have been applied, placing the patient on crutches, raising the well limb by cork sole or thin steel attachment and weighting the diseased limb, and many other plans have all had their advocates.

I show here an instrument that meets all the indications. It is known as Sayre's hip joint instrument. It is portable no cumbersome machinery about it, after its application, adjustable by the patient himself, produces all the necessary extension, and allows motion at the joint. It further allows the patient to acquire and maintain an appetite for beef steak, hominy and bacon, which are better nutrients in such cases than cod-liver oil and hypophosphites, from the out-door air and sunshine, rather than being artificially produced by ferruginous preparations and other means.

First, we have here a thin iron plate with a ball and socket joint, padded and covered with buckskin or other soft strong leather, fitting within the depression of the ilium. To this is firmly attached, with small screws, two sets of buckles for securing the pad in position, by a band passing around the body and one under the perineum. From this universal joint projects a steel rod running down the limb. This is hollow and receives into it a notched bar as you see here.

Two steel bands joined together a few inches apart are bent in a half circle to fit the limb just above the condyles of the femur, and this is securely fastened to the thigh with a strap across the top. This is furthermore attached to the notched bar, before spoken of. By buckles at the lower edge of the half circle, the tabs which are sewed to the adhesive plaster already mentioned, are fastened, thus securing the limb for extension. This notched bar fitting into the hollow rod, is moved by a key, by which extension is made to the desired joint, which should be far enough to prevent hurting by a smart blow on the sole of the foot. The ratchet is held in position by a spring which is fastened down by this little ring placed on the rod, slipping up and down.

As now applied a small light patient can walk with all ease on the instrument, but a heavy person may need some other support, as a cane or crutch. Even under such need this the instrument or a similar one is essential for producing and keeping up this proper extension.

Case 1st, is here presented. The history is given by his father, Dr. S. S. Satchwell, in a letter to me, which I here transcribe:

ROCKY POINT, N. C., May 7th, 1880.

J. D. ROBERTS, M. D.:—*Dear Doctor*:—In reponse to your application for a case of the history of my little son, afflicted with

hip joint disease, I beg leave, respectfully, to submit to you the following statement :

The first assaults of the disease commenced in March, 1879. The boy, seven years of age, was, up to that time, in vigorous health, robust, strong, and without any constitutional affliction, so far as I could discover. I think it was local in origin and came from having the hip thrust against a tree, or stump, or fence, in the ambitious attempts of my son to break, to plantation use, a wild and unruly bull yearling, of which he was fond. The attack was rather sudden and attended with the usual symptoms of hip joint disease ; pain in the knee, disposition to flex the limb of the injured side, pain in the same hip when an attempt was made to press the head of the femur into the acetabulum. Prominent also was the well-known diagnostic mark of screaming at night when the pain would wake him up. Of course, confinement to bed was one of the means found necessary to subdue evident inflammatory action and to promote his comfort. I soon found too, that immobility of the joint and extension were indispensable in efforts to allay the suffering of the little patient, and to counteract the tendency to shortening, which early developed itself.

I may here remark that, in my diagnosis and treatment, I greatly relied upon the kindness and well-known skill of those distinguished physicians, Drs. W. G. and G. G. Thomas, of Wilmington, to whom I carried the little sufferer for examination and advice. I accepted their suggestions to confine him to bed for a month or more, and to apply extension by means of adhesive straps to the leg, with a weight of several pound attached and suspended over the bedstead, in the shape of a bag of sand.

The treatment acted very well in favoring immobility and extension, and in the prevention of abscess that threatened at one time. But, while this favorable condition continued, the disposition to shortening seemed persistent, and the want of open air and exercise, consequent upon protracted confinement, for six weeks and more, began to tell seriously upon his general health and strength, in spite of all my efforts to prevent it. It was at this stage, several months after the disease commenced that I yielded to the advice of these medical gentlemen in the application of Dr. Joseph C. Hutchinson's apparatus, as the best mechanical means then at hand, and

described in the New York *Medical Record* of May 10th, 1872. It consists simply of an elevated shoe and a pair of crutches. In this case they were made at home, and they are about as efficient as those imported from the north. A thin steel plate is applied to the sole of the sound limb, corresponding to the sole of the shoe and applied by an upright steel rod two or three inches long according to the shortening of the unhealthy limb. As the patient stands on this steel plate and uses his crutches, the diseased limb is suspended. The shoe must be high enough to permit the toes of the affected limbs from touching the ground. By means of this apparatus he was taken from his bed and enabled to walk and to take exercise in the open air. The indications for extension, immobility, and the removal of the superincumbent weight of the body were met in a material degree by the use of this apparatus. The weight of the suspended limb acts, of course, as an extension power. This was increased after a month or two by the addition of a small piece of lead to the heel of the shoe. Under the application of Hutchinson's method, as thus described, his appetite steadily returned. His strength and weight of body gradually increased, and he became cheerful and active. The diseased limb, too, shortened by two or three inches by an early stage of the trouble has lengthened a little. My great admiration for the renowned Dr. Sayre, of New York, has kept his method in my mind all along in this case. You have given no little special attention to hip joint disease, and have succeeded admirably in the treatment of a bad case of it in your neighborhood, by the application of Sayre's method. Desirous of availing myself of every means at command for bettering the condition and improving the prospects for recovery of my boy, I accepted your kind offer, made a month or more ago, to treat him according to the same mechanical means. He has been under this treatment about that length of time, and a portion of the time under your own eye. As you have examined him within the last few days, I defer to your own attentive observation and fine judgment to say whether he is improving and what his condition and prospects are.

Very respectfully and truly yours,

S. S. SATCHWELL.

When the case came under my care, it showed the diagnostic symptoms of the third stage of hip joint disease, $1\frac{3}{4}$ to 2 inches

shortening, limb wasted, and a disposition to bring the left foot over in front of the right foot. I applied Sayre's short splint, which he wore off home immediately. In a few days the instrument proving too long, having been ordered for another party. Dr. Satchwell sent him up to me, when, with the assistante of a blacksmith, I altered the instrument and applied it again, since which time the patient has worn it with great comfort. New plasters were applied last week. There is now less tenderness and the disposition to adduct the limb and rest the foot of the diseased limb on the instep of the well one is not so great. There is still some rigidity of the muscles, as evinced by immobility when the instrument is off. He uses his leg very well, but walks with a swing of the pelvis without pain, but forcing the head of the femur into the acetabulum gives pain. But little, if any improvement, as regards lengthening, though much has not been expected as yet. This will be a matter of time, and I think it almost impossible to cure without some shortening.

Case 2d. C. C. V., age 13, came under my care in Feb., 1879, with the following history and symptoms:

Well grown for his age, but somewhat anæmic, appetite poor, family history good. Eight or nine years previous, he received a fall from a barn loft, hurting his right hip to such an extent as to prevent his walking for several days. He soon recovered from the immediate effects of the fall, but has been troubled with a lameness occasionally ever since. This is noticeable more especially after exercise. He has been variously treated by both general and local means. Six months prior to my seeing him, he began to grow worse. Pain a prominent symptom; could scarcely walk at all; very restless at night often crying out in his sleep or walking with excruciating pain in his hip, requiring a constant attendant.

Examination showed as follows: He makes a solid column of his left leg, right leg advanced, toe everted, thigh rotated outwards and slightly abducted. Gluteal crease lowered and natis flattened. Right leg 1¼ inches smaller and 2½ *inches shorter* than left. With this exception all the symptoms point to second stage of hip joint disease. Instead of being shorter there is generally an apparent elongation. I made every effort to ascertain the cause of this, but can give no reason for it. His father states it has been so for several years.

On the 26th of February, 1879, I applied Sayre's short splint, already shown, giving him perfect ease. From this time on, he went where he pleased. Being a farmer's son and withal very energetic, he hauled manure, plowed some, went rabbit hunting, etc., without any inconvenience whatever, nor was he ever troubled with pain after its first application. No night extension was used, the boy sleeping with splint on. New plasters were applied every four to six weeks, until July the 1st when he was discharged, cured. Motion is almost perfect, enough for any ordinary exercise with one inch shortening. He wears a thick bottomed shoe on his short limb and walks with a slight limp.

Dr. Hutchinson claims the plan of weighting the diseased limb to be superior to Sayre's short splint. He takes the ground that there should be more immobility of the joint for a perfect cure, and all that is necessary is to take the weight of the body from the diseased limb. Furthermore that Sayre's, and all like instruments, do not give mobility, but nature wisely prevents mobility by giving a swinging motion to the pelvis and the sound limb in locomotion. I have certainly seen motion with Sayre's instrument, though the natural gait of the hip joint patient is a swing of the pelvis on the sound limb. Prominent among the advantages of Sayre's instrument over Hutchinson's plan, which plan is also recommended by Sayre, when an instrument cannot be procured, is the less weight necessary for the patient to carry. Also the use of the hands, not being filled with crutches, is allowed. Extension is kept up all the time, and there is no necessity for putting the muscles on a strain to prevent motion, as there is when the patient is off his crutches under Hutchinson's plan.

I am unable to say which plan is preferred by the patients themselves, save in Paul's case, who pronounces in favor of Sayre's short splint, after a fair trial of both.

In the third stage there is often necrosed bone, which must, of course, be removed, before a cure can be expected. It may be necessary to exsect the head of the femur, but as this does not properly come under mechanical appliances in the treatment of disease, and I have already trespassed on your time, I will leave the subject with you.

GRAVID NAUSEA.

Report on the Progress of Gynæcology presented to the Med. Society of North Carolina at its 27th meeting, Wilmington, N. C.

By Wm. R. Wilson, M. D., Townesville, N. C.

While this form of "hystero neurosis" (Englemann) in a greater or less degree, is so commonly one of the concomitants of the pregnant state, as to have become one of the diagnostic symptoms of that condition, yet when it exists in such an extreme and persistent degree as to interfere seriously with the functions of digestion and assimilation, bringing about inanition and exhaustion and raising the question of the sacrifice of fœtal life, to save maternal life, it becomes invested with extreme interest to conscientious obstetricians. In its etiology, there have been suggested as factors, uterine flexions and versions the irritation from distension of the uterine tissues, compression of these tissues, ulceration, congestive and inflammatory conditions of the os and cervix, absence of the amniotic fluid, permitting contact of the fœtus with the uterine wall, &c., &c., and in its treatment, as various views are held. Pessaries and position for the dislocations, caustics to the inflamed, congested or ulcerated os, or to create an irritation then and thereby relieve distant organs. Dilatation of the cervix and such medicines as are thought to control reflex phenomena, such as the bromides, chloral, &c. Long ago Tyler Smith suggested and practised stomachial rest, and within the past decade rectal alimentation has become a method for sustaining life in many conditions, where from organic or functional causes the stomach fails to perform its duty. Excellent articles, in which this method of administering both food and medicine, have been recently published by Campbell (*American Gynæcological Society*) Busey (*American Jour. Med. Science*, July, 1879) and by Potter (*American Journal of Obstetrics*, January, 1880). In the limits of this review, I have only time to summarize the facts and observation of Dr. Campbell, as he presents entirely new, and to my mind, satisfactory reasons for the establishment of rectal alimentation as *the* proper method of treatment for extreme and dangerous cases of gravid nausea.

RECTAL ALIMENTATION IN THE NAUSEA OF PREGNANCY—INTESTINAL INHAUSTION, THE RATIONALE OF ITS EFFICIENCY.

The above is a caption of a most interesting and instructive

paper, read by Dr. H. F. Campbell, of Georgia, before the late meeting of American Gynæcological Society. He shows very conclusively that in the grave forms of nausea and inanition of pregnancy, the careful and systematic administration of nutrition per rectum may and ought to banish from practice, indeed, abortion, even as a last resort, for that dangerous condition. He also shows that rectal alimentation is an extremely valuable adjunct in the treatment of any complaint, where the ability to take and retain food by gastric ingestion was long delayed; that above all others, the condition of "gravid nausea" is the one most favorable for efficient and active alimentation.

Our author gives in detail, the history of a case in which for six weeks this method of nutrition was followed and his observations, especially of the "intestinal movements" after the administration of the nutritive enemata forms the basis upon which his rationale of rectal alimentation is built. He found his patient two months pregnant, with an utter incapacity to take or retain food, emaciating rapidly, vomiting large quantities of glairy fluid; such irritability of the stomach that medicines, as well as food, by the stomach were "out of the question." Soda water, champagne, oxolate of cerium, blistering the epigastrium, morphia and atropia subcutaneously, postural pneumatic replacement of a moderate retroversion, and cauterization of an ulcerated cervix, were all in vain. The family of the patient now urged induced abortion, but the large percentage of fœtal issues from such a procedure, the probability of fœtal life and the fact that nutritive enemata were well retained, determined him to rely upon that measure. These had been instituted from the beginning and there was "evidence of adequate nutrition to prevent fatal inanition." From August 25th to October 4th, his patient though utterly unable to take food or drink by the stomach without vomiting, improved in color, flesh and spirits, and slept well, never being awakened by sick stomach. On that evening she aborted a three and one-half months fœtus which was not followed by an abatement of her distress, but for fourteen days afterwards she was nourished *solely* by food per rectum and for a long time afterwards this method had to be used as "supplementary to her very gradually returning power to take and retain food" in the natural manner. In the doctor's notes upon the process of administration, he mentions as the result of his observations that the

rectal aliment, relieved the sense of hunger and thirst, that the alvine discharges were natural, colored with bile, solid and much less than the average of health," that there was no irritability of the urinary organs, but the chief and most important observation was in regard to the behavior of the intestines after each injection. The emaciated condition of his patient, with her thin abdominal walls afforded the best possible opportunity for the observation of intestinal movement. Just after each enema there would be considerable gurgling and faint obscure movements of the bowels so as to induce the fear of aroused peristaltic action and the consequent loss of the enema ; but his patient would assure him that after these gurgling noises and these faint intestinal movements she lost all disposition to pass away the enema.

Daily personal observation convinced the doctor that these movements were upward. "Upon this hint" he speaks, this upward movement, this increased peristaltic or as he calls it this *retrostaltic* action of the bowels was "the important, though hitherto unrecognized factor in all the devices for rectal feeding." This inverse action by which nutrient material was carried to the small intestines, there to come in contact with all the agencies of digestion, assimilation and absorption, in great measure doing away with the acknowledged difficulties of rectal digestion, or with accepting Flint's ingenious theory that the secreting glands, analogous to those of Lieberkuhn, found in considerable number in the large intestine take on a vicarious action and pour out the necessary juices for digestion, or that food introduced into the rectum, excites secretion by the gastric and intestinal glands, and in the absence of food in the stomach, these secretions pass into the large intestines in sufficient quantity to effect digestion. Indeed the reverse of all this is declared, viz : the food placed in the rectum, by this action of intestinal inhaustion, ascends to the small intestines and is then "prepared for absorption just a after buccal ingestion." Analogous action is found in other parts of the alimentary canal. Our author mentions among others the act of gagging as the inverted action of the faucial muscles in the act of deglutition. In vomiting, regurgitation and rumination the contents of the stomach, fluid and solid, ascend. Regurgitation of bile in the stomach, the stercoraceous vomitings of hernia and ileus, and chylous vomiting are samples of this

retrostaltic action, and this is the *habit* of the pregnant woman; "borborygmi in the colon, eructations, regurgitations, nausea and vomiting with a constipated habit far more characterize the gastric and intestinal action of pregnant women, than diarrhœa and other manifestations of downward action." This being the case our author deduces the following conclusions, among others: "That the exhaustion from gravid nausea frequently demands more food than can be retained by the stomach, that the true rationale of rectal alimentation is to be found in the reversal of normal peristaltic action, the rectum sending the aliment above the sigmoid flexure, through the colon and ileo-cœcal valve into the small intestines where are the digestion and absorption. That intestinal inhaustion is to the intestines, what deglutition is to the stomach. That in the early months of pregnancy, reflected uterine irritation establishes a habit of inverse action in the whole alimentary canal and this retrostaltic irritability is the cause of the nausea and vomiting of pregnancy. That this very habit greatly facilitates intestinal inhaustion of rectal ingesta and that this very circumstance renders gravid nausea, above all others, the most favorable for rectal alimentation, and finally that by careful and systematic rectal alimentation, artificial abortion, as a remedy for gravid nausea, can be banished from practice."

VIBURNUM PRUNIFOLIUM IN THREATENED ABORTION.

This remedy was first brought to the notice of the profession by Dr. Phares, of Mississippi, (*Maryland Med. Journal* February, 1878,) who found it particularly useful in preventing abortion or miscarriage, whether from accidental causes or criminal drugging.

Dr. Jenks, of Detroit, has been using this agent for over ten years in a great many cases, and now relies upon it as the most efficacious remedy we have, especially in *habitual* abortion. He now finds it useful in menorrahagia, the metrorrhagia of menopause and in dysmenorrhœa attended with profuse loss of blood.

Dr. B. B. Brown (*Maryland Medical Journal*) gives a number of cases of threatened abortion and miscarriage promptly arrested by this agent.

Dr. J. B. Hughes, of Newbern, N. C., (North Carolina Medical Journal, December, 1879,) gives the histories of seven cases of threatened abortion and miscarriage from the twelfth week to

the eighth month, in all of which, that process was checked by the viburnum. In some of the cases there was already considerable dilatation of the os when he was called. The doctor thinks the drug acts upon the ganglionic nerves of the uterus, promptly suspending uterine contraction.

PILOCARPIN IN OBSTETRICS—FIRST INDICATION OF PREMATURE LABOR.

L. Klinwæcheter (*Archiv. f. Gynæk*, XIII, 2), in a case of pregnancy, complicated with albuminuric anasarca, by the hypodermic injection of a ten per cent. solution of the muriate of pilocarpin produced uterine action, which resulted in the birth of a living child at about the thirty-fourth week of gestation, in eighteen hours after the injection ; in another case of general dropsy, the pilocarpin was still more effective as in seven hours after the injection, the woman gave birth to a living child. In another case, in a faulty pubis he succeeded in inducing premature labor—the mothers all doing well.

In inertia of the uterus, Dr. F. Schwata, of Vienna, (*Wien Med. Wochensch.*, 1878,) reports the results of the use of this drug in fifteen cases, occurring in the service of Späth, the muriate being used hypodermically. In cases of abortion when that process was delayed (in one case as forty-eight hours had elapsed after the rupture of the membranes) the injection of pilocarpin was followed in a few moments by such active uterine contraction as soon to expel the ovum. In four cases of labor at term, inertia occurring, the administration of this drug, promptly renewed the labor. In nine cases, inertia supervened in the second stage of labor, and in these, upon exhibition of the drug, there was immediate resumption of labor pains. In all these cases, its use was followed by diaphoresis and salivation.

In puerperal albuminuria and eclampsia, Dr. Fordyce Barker, in the *Medical Record*, March, 1879, gives the histories of six cases of puerperal albuminuria treated by this agent, with fatal terminations in five of the cases, and he gives it as his decided opinion that in these cases, the drug not only does no good, but is positively injurious by reason of its "depressing effect, which is continuous and exhausting, preventing sleep and repose of the nervous system. On the other hand, other observers record cases in which prompt and decided benefit accrued to their patients by the use of this agent.

Dr. Stroynowski (*Centralblatt für Gynakol.*, 1879,) gives a case of eclampsia, in which after failure from other remedies, an injection of pilocarpin, in a few moments produced copious perspiration and salivation, a complete cessation of the convulsions, rapid diminution of albumen in the urine and complete recovery of the patient.

Dr. T. G. Thomas gives a case (*American Journal of Obstetrics*, July, 1879,) of post partum convulsions. The patient was chloroformed and purged, and pilocarpin was used subcutaneously, profuse diaphoresis was soon followed by a cessation of the convulsions. He attributes the happy termination of the case, in a great measure, to the use of the pilocarpin.

Dr. Gillette (*American Journal of Obstetrics*, July, 1879,) also reports a case in which the jaborandi seemed to have almost a "specific benificent effect," the convulsions ceasing, the profuse diaphoresis being followed by calm and quiet sleep.

M. Saenger (*Arch. f. Gynak*, *XIV.*,) calls attention to an element of danger in the use of this agent, in the comatose condition of eclampsia, when the action of the reflex centres are suppressed by the patient's inability and indisposition to expectorate the enormous quantity of saliva and mucus, thrown into the air passages by its use. He attributes fatal results in two cases to this cause.

POST PARTUM HÆMORRHAGE.

A well contracted uterus cannot bleed, is a well established obstetrical truism, and all agents to be efficient in post partum hemorrhage, must either have the power to set up uterine contractility or a chemical or mechanical action or both combined, upon the mouths of the gaping uterine vessels.

Prof. Penrow, (A. G. Soc., 1879,) advises a very homely and attainable remedy, viz : vinegar. He carries cloths saturated with this article to the fundus uteri and declares that in a large obstetrical practice it has rarely failed him. The fact that it is almost always at hand, adds to its value. Before the same Society, Dr. H. P. C. Wilson, in obstinate cases, advises the introduction of the hand into the uterus and the use of the finger nails as so many curetts with which to scrape, thoroughly, the site of placental union.

This question was the subject of an interesting discussion before the last meeting of the British Medical Association (review in

Maryland Journal) participated in by Drs. Madden, Barnes, Athill, Kidd, and others. Dr. Barnes uses the per chloride of iron in cases where the uterus has lost all power of reflex contractility. In these cases, the need is for some agent to clot the blood in the open mouths of the vessels, bereft of all power to shut themselves.

Dr. Madden gave nineteen cases in which he had to resort to this agent, with one death. He does not inject the solution into the uterus, but carries into that organ a sponge soaked in the solution.

Dr. Atthill also resorts in extreme cases to this agent, but with the conviction that in its use we always have reason to suspect danger. He thinks ergot to be efficient, must be used in anticipation as we have no time to await its effects.

The application of cold is efficient and appropriate if used while the patient is warm, and while reäction can follow; if the patient is cold or exhausted, this agent will only add to the mischief. In this cold, collapsed, exhausted stage, heat in the shape of hot water was eminently indicated. The proper temperature was from 105° to 110° F.

Dr. A. H. Smith (*Phil. Med. Times*, August, 1879,) claims as facts, proved by experience that the hot water douche 110° to 115° F., thrown into the cavity of a bleeding uterus, after labor, produces prompt and vigorous contraction and condensation of uterine tissue. He applies it with Davidson's syringe, the nozzle carried into the cavity and used until the stream comes back uncolored.

He is so impressed with the power of heat so applied, that he advises its use as a preventitive and for two years he has resorted to it after all labors. The water is slightly carbolized. Hæmorrhage is not only prevented, but the uterus and vagina are cleansed and disinfected.

UPON THE INDUCTION OF PREMATURE LABOR IN THE ALBUMINURIA OF PREGNANCY.

While it is undeniably true that the vast majority of albuminuric pregnant women go through their labors without serious nervous complications yet the fact, that every now and then, say once in fourteen cases as estimated by good authority, patients with this symptom suffer with that most fearful and startling complication of pregnancy, viz: Puerperal eclampsia invests the subject with deep interest and every conscientious obstetrician must be on the "qui

vive" for any new light upon its etiology or treatment. The simple fact that the pregnant state is also the termination of the albuminuric state, brings into prominence the question of the induction of premature labor, and hardly upon any other professional subject is the old adage that "doctors will differ" more true than upon this.

For instance, "Playfair (*Science of Midwifery*) advises the induction of premature labor whenever the amount of albumen is large and increasing, and when especially there are signs of a general disturbance as evidenced by headache, dizziness, or loss of sight."

Barker says that he "deems it an imperative duty to resort to this operation when treatment has been thoroughly and perseveringly tried without success for the removal of symptoms of so grave a character, that there is a strong probability that their continuance would result in the death of the patients."—*American Jonrnal of Obstetrics*, July, 1878.

Schrœder (*Manual of Midwifery*) considers that "so far as the mother's interests are concerned, obstetrical manipulations are contraindicated."

Tarnier says it (premature labor) may be serviceable in exceptional cases.

Spiegleleburg says: "An obstetrical treatment, especially the induction of premature labor, cannot be entertained.

Dr. W. L. Richardson, of Boston, in an instructive and interesting paper and before the Amer. Gynæcological Soc., 1879, upon the treatment of parenchymatous nephritis of pregnancy says that while the "QUALITY of the urinary secretion gives us the signal of threatening danger, the *quantity* of that secretion is the guide by which to estimate properly the extent of that danger." The doctor then gives the histories of eleven albuminuric pregnant women—in all of whom there were present certain symptoms in common; with one exception, they were all primipara—all more or less œdematous, with frontal headache, gastric disturbances, albuminuria with hyalin casts and blood corpuscles pointing to the true nature of the complication. In six cases the *quantity* of urine was reduced to almost *nil*, and all these had convulsions. In the other five, with the same general symptoms, the *amount* of urine was never the normal standard, and they all escaped the threatened

danger. He gives the following points brought forward in his paper:

1st. It is our duty to examine the urine of all pregnant women who may commit themselves to our charge with a view to an early detection of an invasion of parenchymatous nephritis.

2d. If this complication is found to exist, we should have the quantity clearly ascertained.

3d. Whenever we find the quantity of urine markedly below the normal standard we should endeavor, as advised by Prof. Barker, to reëstablish, by suitable treatment, the function of the kidneys; or failing in this, to supplement, if possible their loss of action by the increased action of other excretory organs.

4th. If, despite all our efforts the want of urine is very small and constantly lessening, we should not hesitate, at once, without regard to other symptoms, to induce premature labor and thus avoid an attack of convulsions which is sure to come whenever the daily secretion of urine falls below a certain amount, and this duty is the more imperative, should we think the child viable.

THE BEARINGS OF CHRONIC DISEASE OF THE HEART UPON PREGNANCY, PARTURITION AND CHILDBED, BY DR. ANGUS MCDONALD.

Dr. McDonald (Review by R. P. H., *Amer. Jour. Med. Sciences*, April, 1879,) discusses the physical eligibility for marriage of females suffering with organic heart troubles and gives the following record of thirty-one cases:

Fourteen cases of mitral stenosis with the following results: Three primipara, all died. Four pregnant for the second time, two died. Two pregnant for the sixth time, one died. The others were in the third, fourth, seventh, eleventh and twelfth labors, and of these three died. In all, nine deaths to five recoveries, death occurring during periods from delivery up to nine months afterwards. Premature delivery occurred in one half of the cases, a very common result of pregnancy complicated with mitral stenosis. Delivery in this form of heart disease does not give marked relief as the complications, viz: dyspnœa, pulmonary apoplexy and congestive bronchitis are apt to continue. In eight cases of mitral insufficiency, there were four deaths, in but one case did premature labor supervene, showing a marked contrast in this respect with

cases of mitral stenosis. In six cases of aortic insufficiency there were three fatal results. In most of these cases there were histories of acute rheumatic attacks. In these irregular complex cases of heart disease complicated with pregnancy, all three died, thus in the thirty-one cases there was a mortality of fifty-five per cent.

Dr. McDonald gives the following deductions from the record of his cases :

1st. Chronic heart disease ought to be looked upon as a grave contra-indication of marriage, especially if it assumes the form of mitral stenosis, or of aortic insufficiency.

2d. There is less danger in mitral insufficiency, but even then, the danger is considerable.

3d. Marriage ought not to be sanctioned, when in connection with chronic heart disease, there are symptoms of cardiac disturbance present, such as dyspnœa, breathlessness, palpitation on exertion or hæmoptysis, more especially, the younger the patient and the more recent the acute disorder which gave rise to the cardiac lesion.

4th. Such patients as are married and have chronic heart disease ought not to suckle their children, as that has a tendency to keep up cardiac hypertrophy and to increase the risks of a defective heart.

5th. All possible causes likely to set up inflammation of the lungs and all severe exertion should be avoided during pregnancy, and especially during its latter months.

6th. Premature labor is to be avoided because it will do greater harm by disturbing the action of the heart and lungs, than good by terminating the pregnancy, more especially as it has been found that relief is not certainly produced by delivery.

7th. The same general principles of management are applicable during pregnancy and childbed as are followed with patients with heart diseases not pregnant.

9th. In almost all cases, chloroform carefully administered may be used with benefit during delivery.

10th. All legitimate means must be used, to lessen, during labor, the bearing down efforts of the patient, as the judicious use of forceps or by version, and in cases of great amniotic distension, timely rupture of the membranes.

PUERPERAL VAGINITIS AND LACERATION AS CAUSES OF VESICO-VAGINAL FISTULA.

Prof. W. H. Byford (*Chicago Med. Journal and Examiner*, February, 1879,) in discussing the etiology of vesico-vaginal fistulæ, recognizes the generally accepted view, that in a great majority of cases, they are produced by the protracted pressure of the fœtal head in difficult labors; but combats the idea that this prolonged pressure produces immediate sloughing and tissue loss, but says that during and after labor for some days, there is a highly inflammatory condition of the soft parts of the mother, and this condition should receive prompt care aad treatment, by which the sloughing process in many cases might be "entirely averted and greatly limited in all." He quotes Dr. Emmett's statistics of 161 cases in which the average time at which the urine first made its appearance in the vagina, was nine days. He then asks the very pertinent question "What was transpiring in the vagina during this period?" For years he has been lecturing upon puerperal vaginitis and upon the possibility of avoiding fistulæ by proper treatment. As of the first importance he advises that an empty state of both bladder and rectum be maintained, and that the vaginal circulation be stimulated by frequent hot water injections, and the threatened point in the vesico-vaginal septum, be treated locally, by applications of sulphate of copper or by nitrate of silver, 20 grs. to the ounce. We should also pay proper attention to general treatment. He is satisfied that we may by this watchfulness and care, prevent many cases, that would otherwise eventuate into fistulous openings.

PLACENTA PREVIA.

Prof. J. E. Taylor, in a paper upon the early delivery of the placenta, when previa (*American Gynæcological Society*, 1879,) contends that the cervix uteri maintains its integrity as to length and structure, while the body of the uterus is being so much enlarged to accommodate the growing child, that the cervix is an annex to the body of the uterus as much prepared, physiologically, to expand, as the fundus is prepared, physiologically to contract; that it is anatomically, as well as in function, different from the body, and that the placenta, if planted upon the cervix could not attach itself and grow there, and that all those obstetric authors are in error who

write of the gradual dilatation and coälescence of the cervix with the body of the uterus, in the latter months of gestation. These conclusions are deduced from the examination of twenty-five hundred cases of pregnancy at all stages of its progress, cases of placenta previa, twenty-five post-mortem examinations of patients who died just before, during or just after labor. He declares that in a good many instances, he has watched the behavior of the cervix during labor and that the child's head is driven through the cervix by the action of the fundal muscles, the cervix being passive, is elongated by the fœtal head and after that has passed it, (the cervix) simply resiliates, and by its inherent contractility is reduced to the state in which it was before labor.

In the treatment he advises the tampon, in the shape of the colpeurynter, Barnes or Molesworth's dilators, or the simple surgical bandage, with the judicious use of ergot to incite and expedite uterine action, all this to pave the way for version or the forceps. He says that whenever the external os is dilated to the size of half a dollar, the internal os is three inches wide, and then by internal or external version or by both combined, we can proceed to deliver. He also says that for twenty-five years he has never, in any case where turning was indicated, introduced the whole hand into the uterus. As to the induction of premature labor, he says that when the flooding is active and profuse and the cervix not yet expanded, whether this occurs in the seventh, eighth or ninth month, we must proceed to dilate the cervix and deliver the patient. The doctor concludes his paper by declaring that from his experience, "cases of placenta previa can and will be as successful in their issue as any of accidental hæmorrhage occurring at any period of gestation."

Dr. George Sutton in an article upon this subject, read before the Indiana Medical Society after discussing the usual treatment, suggests that in cases of rigid non-dilatable os, in the presence of active and dangerous loss of blood, incisions in the os and cervix be made and thus a chance for version be afforded. This operation, he remarks is often performed for dysmenorrhœa, sterility, atresia of the gravid and non gravid uterus, and for the removal of uterine fibroids, why not in placenta previa, when other means of dilating the cervix are inefficient or not available. True there may be danger of cellulitis or peritonitis or both, but these dangers are *possibilities*

and not to be regarded as contra-indications, in the actual present danger of death from hæmorrhage.

Prof. R. J. Nunn, of Savannah, in a recent number of the *American Journal of Obstetrics*, publishes a "new" treatment for this complication of pregnancy by "the direct and continuous application of a styptic solution of the persulphate of iron." In his case for six hours after the first application of the styptic there was an absolute cessation of hæmorrhage as watched through the speculum. He found it necessary to make there such applications during a labor of eight hours, which by this means resulted in a bloodless delivery.

If your reporter is not mistaken a somewhat similar plan of treatment was reported sometime during last year in the NORTH CAROLINA MEDICAL JOURNAL; but I have looked in vain for that copy of the JOURNAL, (March, 1879, p. 154).

PUERPERAL MALARIAL FEVER.

Dr. Barker, in a recent article (*American Journal of Obstetrics*, 1880,) calls the attention of the profession to this complication of the puerperal state. While, as the doctor says, the text books do not treat of this affection, yet few physicians, whose practice is in a malarial section, can fail to call to mind many such cases as he describes. The development of the affection is about as it would occur in the non-puerperal state: general malaise, chill, high temperature, rapid pulse, followed by "greater prostration than is usual with other diseases at this period." It may be confounded with septicæmia, puerperal fever, phlebitis and sometimes with puerperal mania, so it is of great importance to make a correct diagnosis. From septicæmia it may be distinguished by the fact, that a fall of a few degrees of temperature in malarial fever is accompanied by a mitigation of all the symptoms, which is not the case with septicæmia, and "the latter is rarely accompanied by pain in the head, back and limbs."

Puerperal fever is not characterized by recurrent chills, nor marked remissions of fever. The physical signs of phlebitis with the recurring exacerbations of malarial fever, will make the diagnosis clear. Of course, malarial fever may complicate the local phlegmasiæ, but Dr. Barker has seen only two cases, in which metritis seemed to develop the full effect of the malarial poison. In five cases, this

complication seemed to bring about secondary hæmorrhage, and while in some cases, there was a development of purpura, yet he had never seen a case which might be called hæmorrhagic malarial fever.

In the treatment, the chief dependence has been upon the persistent use of large doses of quinine and there seems to be a remarkable tolerance of the drug.

PUERPERAL SEPTICÆMIA.

This subject was discussed before the American Gynæcological Society at its meeting just closed, and papers were read by Drs. Jenks, of Chicago, Chadwick, of Boston, and Sinclair of the same place, an abstract of these papers and the discussion is published in the April number of the *American Journal of Obstetrics* from which I make the following summary:

Septicæmia may be defined as a "constitutional disease of limited duration, caused by entrance into the circulation of septic material." The symptoms are generally observed in the following order: chill, rise of temperature and pulse, headache, uterine tenderness, typhoid aspect, offensive lochia, vomiting and diarrhœa, and irritable bladder. The causes and conditions favoring the onset of this disease were, direct contagion, denuded surfaces, prolonged and severe labors, and retention of foreign matter in the uterus.

In the treatment, Dr. Sinclair advises "quinine to cinchonism, brandy to alcoholism, concentrated nourishment, and uterine douches of permanganate of potash and carbolic acid."

Dr. Chadwick preferred the permanganate of potash wash, because "so long as it comes in contact with putrid material, its deep claret color was changed to a deep yellow."

Dr. Jenks, after an extended reference to the literature of the subject, among other conclusions presented the following, viz:

"Puerperal septicæmia being a frequent cause of death, the indication for treatment, is to prevent the absorption of septic material; that when death has followed intra-uterine injections, it was on account of their improper administration and to secure immunity from danger as much as possible, we should observe the following precautions, viz: the neck should be well dilated, air must not be admitted, the injection made without force and slowly, the temperature of the fluid should not be lower than that of the

body, and powerful astringents are not indicated. He further said that positive indications for intra-uterine injections existed whenever there was a premature cessation of lochia with constitutional disturbances, or when the lochia were purulent or fetid, especially if with this condition there were associated a high temperature and frequent pulse. He also advises the use of these injections as prophylactics because they remove material which may give rise to septicæmia, they act quickly, are peculiarly serviceable in causing the expulsion of clots, and aid in the involution of the uterus."

Dr. Skene, of Brooklyn, thought that by antiseptic management of puerperal cases, the necessity for intra-uterine injection into the post partum uterus would become less frequent.

Dr. Englemann, of St. Louis, used intra-uterine injections but thought them dangerous, yet less so in puerperal than non-puerperal women. He has seen cases of poisoning when carbolic acid was used.

INTRA-UTERINE MEDICATION.

In a discussion upon this subject before the American Gynæcological Society, October, 1879, Dr. J. P. White advises the application of remedies to the uterine cavity by the method of injection, insisting, however, upon the previous dilatation of the cervical canal, preferably by sponge tents. A mixture very commonly used by him is composed of iodine, iodide of potassium and tannin, dissolved in glycerine.

Dr. Battey, of Georgia, urged intra-uterine medication with iodized phenol. It gives but trifling pain, is rapidly absorbed and its energy can be accurately measured by the amount used, and the time it is allowed to remain in contact with the uterine surface. When applied to cancerous growths, it acts energetically, prevents hæmorrhage, destroys fetor, and alleviates pain. Dr. Battey has fully and satisfactorily tested this combination in a "large number of cases of chronic affections of the cervix, the cervical canal and the endometrium, in uterine hypertrophy and subinvolution. He uses the remedy three or four times in the inter-menstrual period. Some three or four days after its application, there is usually an exfoliation of superficial mucous membrane, the reproduced tissue is not cicatrical in its character, consequently there is no stenosis. It arrests leucorrhœa, heals abrasions, removes villosities and indu-

rations, stimulates involution and the iodine being rapidly absorbed, there is but little use for other constitutional treatment.

Dr. Sims, in obstinate cases of uterine catarrh, dilates the cervical canal and scrapes away with the curette, the fungoid granulations, and follows this with Paquelin's cautery up to the os internum.

Dr. J. E. Taylor has been using, for several years, the curette in such cases. He heats the iron a little above the dark color, and applies it rapidly to the diseased surface.

Drs. Howard and Bozeman thought that in a great many cases, a correct diagnosis would discover a version or flexion as the primary lesion, which properly treated, would aid greatly in the management of secondary lesions.

Dr. Thomas also thought that when uterine catarrh extended into the internal os, it was as a rule dependent upon flexion, version or a slight prolapse. He regards intra-uterine injections, in many cases, as highly dangerous and as a general rule of practice, "more honored in the breach than in the observance."

Dr. Fordyce Barker treats membranous dysmenorrhœa by the introduction into the uterine cavity of cones of iodoform. He gave three successful cases.

Dr. Byrne, of Brooklyn, said that just in proportion as the uterus had departed from the normal to the pathological state, was it tolerant of medication, but that he had long abandoned the use of liquid injections.

Dr. Mundé had also long since abandoned the use of intra-uterine medication by injection, at present he uses Battey's hard rubber syringe, wrapping the nozzle with absorbent cotton, the fluid being slowly expressed, is taken up by the cotton, through which it reaches the uterine surface.

Before the British Medical Association, Dr. Atthill advises intra-uterine medication in dysmenorrhœa and chronic uterine catarrh, preferably by "swabbing" for liquids and the porte caustique for solids.

Dr. Tilt said he had learned from experience, that internal metritis was often obscured by proper attention to the os and cervix, but thought intra-uterine medication indicated in incoërcible blood-loss, membranous dysmenorrhœa, and in habitual abortion dependent upon some morbid condition of the endometrium.

MALIGNANT DISEASE OF THE UTERUS.

Perhaps in no other uterine affection has there been such a radical change, and we may truthfully say, such a radical improvement as in the treatment of malignant diseases of this organ. Dr. Emmet in his recent work on Gynæcology, in his etiology of these diseases, says that perverted nutrition is one of the chief factors in their causation, viz: an injury is sustained, and in the effort of nature to repair the part, from "some defect or loss of balance, the process is, not properly checked or limited and he broadly states that nearly all, if not all cases of epithelioma and cauliflower growth have their exciting cause or origin in a laceration of the cervix" and it "may develop from a recent laceration or it may occur after the change of life. At that time an entire change in the uterus is being accomplished, the mucous follicles became atrophied and the blood supply gradually diminishes. The existence of an old cicatricial mass (the result of nature's effort to heal a laceration in early life) retards this process, it becomes a source of irritation, causing an increased flux of blood to the part, unfitted to receive it, a new growth is stimulated on this epithelial surface, which probably benign at first, degenerates and becomes malignant. In a well-marked case of epithelioma, in order to stop an excessive hæmorrhage, he applied a large quantity of Monsel's salt of iron. From some mistake this was allowed to remain undisturbed for nearly a week, and to his surprise, when the case was examined, the mass of granulations had entirely disappeared, showing a well marked case of double laceration. This case drew his attention to this probable factor in the causation of this disease and he has "over and over again verified the existence of laceration in such cases," indeed, "he has never failed to detect this injury (in such cases) unless the disease had progressed so far as to involve the vaginal walls." I have quoted thus freely from this author, because of the real and acknowledged dearth of knowledge as to the etiology of this terrible class of diseases, and because it gives another and powerful reason for the early and prompt treatment of lacerations of the cervix.

Emmet, Thomas, Sims, Wells, Reamy, Koerbole, and indeed, all gynæcologists of note, advise the early removal of the diseased cervix in these malignant affections. Dr. Sims has published in

the July number of the *American Journal of Obstetrics*, an elaborate article upon the treatment of epithelioma of the cervix. His operation is that of ex-section or extirpation of the whole diseased mass—not simple amputation of the cervix, but with curette knife and scissors, to be afterwards followed by the application of a strong caustic to produce sloughing and thus to eradicate thoroughly the disease. For lack of time and space, I can only give the "following inferences deducible from the facts set forth in his paper":

1st. Do not amputate or slice off an epithelioma of the cervix on a level with the vagina whether by the ecraseur or the electro-cautery.

2d. Exsect the whole of the diseased tissue, even up to the os internum if necessary.

3d. Arrest the bleeding with a tampon of styptic iron or alum cotton wool.

4th. Be careful not to apply the tampon with such force as to lacerate the excavated cervix uteri.

5th. When the tampon is removed, cauterize the granulating cavity with chloride of zinc, bromine, sulphate of zinc, or some other manageable caustic capable of producing a slough.

6th. After the removal of the caustic and the slough, use carbolized warm water vaginal washes daily until cicatrization is complete.

7th. After the cure, put the patient upon the use of arsenic as a protection against cancerous diathesis, and urge the importance of examination every two or three months for the purpose of detecting the recurrence of the disease.

8th. If fungous granulations or knobby protuberances are found, remove at once and use the caustic as in the first instance.

9th. Almost every case may be benefitted by operation even when there is no hope of giving entire relief.

In the *Maryland Med. Jour.*, 1878, Dr. H. P. C. Wilson, of Baltimore, publishes an account of his use of Paquelin's thermo-cautery in epithelioma by which he removed the "whole cervix up to the vaginal junction and much of the substance of the cervix above the vaginal junction was peeled out." At the end of the operation the cervix presented the appearance of a cone, the little end extending up and within the os internum. At the end of four

weeks his patient was up and well. The chief difficulty in the use of this apparatus was the great liability to burn the vaginal walls. Dr. Wilson has lately invented a shield or jacket, by which such complications are easily and entirely prevented.

Dr. Clay, of Birmingham, England, in the March number of the *Lancet*, strongly recommends the use of Chian turpentine in the treatment of cancer of the female generative organs. The turpentine seems to act upon the periphery of the growth with great vigor, causing a disappearance of the cancerous infiltration and thereby arresting the growth of the tumor." It is anodyne and hæmostatic.

The following is Prof. Clay's formula:

℞.

Sol. chian turpentine, ℥ ss.
Sol. Tragacanth, ℥ iv.
Syrup, ℥ i.
Sulphur loti, ʒ ij.
Water to make, ℥ xvi.

Dose, one ounce three times a day.

EXTIRPATION OF THE UTERUS FOR MALIGNANT DISEASE—FREUND'S METHOD.

Dr. W. A. Freund, of Breslau, (Number 133 *Volkman's Klinischer Vortrage*), thus describes his method of extirpating a cancerous uterus: The bladder and rectum having been emptied and the uterine cavity washed out with a ten per cent. solution of carbolic acid, the abdominal cavity is opened by an incision commencing three fingers breadth below the umbilicus, and reaching nearly to the symphisis pubis.

The intestines were raised out of the pelvic cavity and held away by a wet napkin placed in Douglas' cul-de-sac.

The body of the uterus is freed by manipulations from any adventitious adhesions and then a ligature passed through it (the body of the uterus) by which it was perfectly under the control of the operator. Each broad ligament was now tied in three sections. The upper ligature was passed through the tube above, and the ovarian ligament below the middle ligature through the ovarian ligament above, and the round ligament below, and the lower ligature pierced the round ligament above, and the lateral walls of the vault of the vagina below, thus, the needle avoided those portions

of the broad ligament which enclosed large veins. The cervix was then set free from the bladder by cutting through the peritoneum at the bottom of the utero-vesical pouch. The anterior wall of the vagina was then divided and then, the posterior wall, by incision through the bottom of Douglas' cul-de-sac, and finally the broad ligaments were cut inside the ligature, and then the two lateral walls of the vaginal vault, and thus the uterus severed from its connections was lifted from the pelvis. The hemorrhage was trifling, only one small vessel requiring the ligature. The pelvic cavity was carefully sponged out with carbolic acid lotion, the six ligatures were drawn through the opening in the vagina and made tense, thus producing a sort of prolapse of the broad ligaments and those portions of the pelvic peritoneum covering the anterior and posterior walls of the pelvis, into the vagina. By strong traction upon the upper ligature a transverse slit was formed between the bladder and rectum, constituted by the uninjured portions of the anterior and posterior layers of pelvic peritoneum, the cut edges lying down free in the vagina, with the ligated stump of the broad ligament, whilst the fimbriated extremity of the Fallopian tube and the ovary stood upright at either end of the slit. The newly established relations of the pelvic organs was then fixed in a simple manner by a close row of sutures. The abdominal wound was closed by silver sutures, including the peritoneum, and antiseptic dressing applied.

Dr. F. has operated five times with three recoveries.

FIBROUS TUMORS OF THE UTERUS—THOMAS' SERRATED SCOOP OR SPOON SAW.

Dr. T. Gaillard Thomas (*Medical Record*, Feb., 1879,) uses for the removal of these growths his serrated scoop or spoon saw. Seizing the lowest and most accessible portion of the tumor with strong volsellum forceps, he separates it from the uterus by passing his spoon-saw around it, and by a gentle pendulum-like motion severs it from its connections. He claims the following advantages for this instrument: 1st. Greatly limited hæmorrhage. 2d. The shape of the spoon-saw, convex without, concave within, itself follows the contour of the tumor at the same time protecting the uterine tissue. 3d. The highest attachments of the growth are readily reached. 4th. Rapidity and certainty of action. 5th. It leaves no pedicle to

decompose. Whenever the tumor is small enough to be delivered per vaginam, it can always be detached by this instrument with less danger of entering the peritoneal cavity then when enucleation is attempted. In cases of very large tumors, lying chiefly above the superior strait, he advises the following procedure, viz: Seize the tumor with forceps, draw it down, divide the distended perineum to the sphincter ani, partially or completely invert the uterus, detach the tumor with the spoon-saw, replace the uterus and close the perineum with sutures.

EMMETT'S METHOD BY TRACTION.

Emmett's experience teaches him (*Principles and Practice of Gynæcology*) that fibrous tumors of the uterus only become pedunculated when they are so situated that the force of gravity, acting as an irritant, sets up uterine contraction, that part of the uterine wall covering the growth, probably from some structural change induced by pressure, loses its power of contractility and that just around this seat, this neutral space as he calls it, muscular action is more marked than at any other point, and that as the tumor is forced inwards toward the uterine cavity, thus becoming pedunculated, this neutral space is crowded in upon by the encircling bands of contracting fibres. When these tumors are not eligibly situated for the force of gravity to set up uterine action, he supplies this deficiency by traction upon the growth in the direction of the uterine outlet. This traction, he continues until the tumor becomes pedunculated from being "forced out of its place by muscular contraction closing in, around and behind the mass." In his operations, he seizes the tumor as high up as possible with strong forceps and making steady traction, he removes the tumor piece meal, with scissors as it is drawn down and in sight. As a rule, the pedicle, after the *traction operation*, is that part of the growth nearest the uterine outlet, and generally becomes surprisingly small and attenuated. Another great advantage of this principle of traction is that as it is made, uterine contraction is set up, and as the tumor is forced from its bed, it becomes blanched and bloodless with very little attendant hæmorrhage.

INTERSTITIAL UTERINE FIBROUS TUMORS—THOMAS' OPERATION.

The removal of submucous uterine fibroids, and even of the subperitoneal tumors, have within the past few years been placed upon

a plane of comparatively safe surgical procedure. It remained for the genius of our distinguished countryman, Dr. T. Galliard Thomas, to devise a method for the safe removal of intra-mural tumors. This he has recently done and publishes a case in the April number of the *American Journal of Medical Sciences* and he declares "that he does not publish the case as an instance of a remarkable operation but as an illustration of a system, which simple and efficient, when applied to suitable cases in future, will accomplish a great deal of good, when at present, very little effort at surgical relief is attempted." His patient was suffering with profuse uterine hæmorrhage, dysuria uterine and rectal tenesmus. Examination revealed an immense hypertrophy of the posterior uterine wall, the uterine cavity measuring nine and one half inches and the cervix admitting the index finger. The patient was etherized, placed in Sims' position and the operation commenced by cutting out with scissors a portion of the posterior uterine wall just above its vaginal junction. Disregarding the hæmorrhage, he enlarged the opening with his finger and then forced upwards; passed within the uterine canal a strong grooved director, and then with a knife in the groove he cut that portion of the uterine tissue between the tumor and the cavity, thus bringing into view the bright glistening tissue of the tumor. Seizing this with strong volsellum forceps, he passed his spoon saw around it for one or two inches, thus detaching it from the uterine bed, this portion he removed with scissors and again using the spoon-saw, he detached a further portion which in turn was cut away by scissors and so on, until the whole tumor, two pounds in weight, was cleanly and safely removed. He mentions in the close of his article that in 1878 he removed an eight ounce tumor by the same operation without the use of the scissors. He attributes the safety of the operation to the action of the spoon saw.

CONSTITUTION

OF THE

Medical Society of the State of North Carolina,

As Amended at its Twenty-Seventh Annual Meeting, May, 1880.

ARTICLE I.—*Title of the Society.*

The title of the Society shall be "THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA."

ARTICLE II.—*The Objects of the Society.*

The objects of this Society shall be the advancement of medical knowledge, the elevation of professional character, and the promotion of all measures of a professional nature that are adapted to the relief of suffering humanity, and to improve the health and protect the lives of the community.

ARTICLE III.—*Members of the Society.*

SEC. 1. This Society shall consist of Permanent Members, Delegates, Associates and Honorary Members.

SEC. 2. The Permanent Members of the Society shall consist of such regular Physicians as shall have complied with the law of the State embraced in an "Act to incorporate the Medical Society of the State of North Carolina and for the establishment of a Medical Board of Examiners" and shall receive two-thirds of the votes of those present.

SEC. 3. The Delegates shall receive their appointment from the County Societies, and from the Counties that have no Society a delegate may be appointed by the Profession of the County; *Provided,* they have as many as two regular Practitioners within the County.

SEC. 4. Every Delegate before admission to a seat in the Society, shall produce a certificate of delegation, signed by the President or Secretary of the County Society or Association, and shall sign the Constitution any pay the assessment.

SEC. 5. Each Delegate shall hold his appointment for one year, or until another is appointed to succeed him.

SEC. 6. Every member of a County Society shall be an Associate Member of the State Medical Society.

SEC. 7. An Associate Member shall be entitled to all the privileges of attending upon the deliberations of the Society, and take part in its discussions, but shall not be allowed to vote, nor shall he be eligible to office.

ARTICLE IV.—*Of the Officers.*

SEC. 1. The officers of this Society shall be a President, four Vice Presidents, a Corresponding and Recording Secretary, and Treasurer.

SEC. 2. A Committee composed of five members shall be appointed by the President to nominate officers and honorary members, and those nominations shall be voted on *viva voce.*

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SEC. 3. None but permanent members and delegates shall be eligible to the office of President, Vice President, Secretary and Treasurer.

SEC. 4. There shall be annually appointed an Executive Committee of three members, whose duties shall be to investigate the professional status of members of this Society. Their duty shall comprehend the reports of any violation of the Code of Medical Ethics, or any irregularity either of members or auxiliary Societies, and also to make such recommendations for the improvement of the profession of the State as they may deem proper.

ARTICLE V.—*Duties of the Officers.*

SEC. 1. The President shall preside at the meeting, preserve order, and perform such other duties as custom and parliamentary usage may require. He shall not be eligible for two terms in succession.

SEC. 2. The Vice Presidents when called upon, shall assist the President in the performance of his duties, and during the absence,

and at the request of the President, one of them shall officiate in his place. They shall not be eligible for two terms in succession.

SEC. 3. The Corresponding and Recording Secretary shall conduct the correspondence, and perform such other duties as usually appertain to that office; and shall keep correct minutes of the proceedings of the Society; and shall fairly transcribe the same, when approved, in a book to be kept for the purpose. He shall have charge of all papers belonging to the Society, other than those appertaining to the Treasurer; and shall give due notice of the annual meetings, and shall receive such compensation as the Society may from year to year determine.

SEC. 4. The Treasurer shall receive all moneys belonging to the Society and give receipts for all sums paid into his hands to the individual paying the same, and disburse them as directed, preserving vouchers for the same. He shall annually present a statement of the finances to the Society, which shall be referred to a committee of three delegates to be audited.

ARTICLE VI.—*Of the County Societies.*

SEC. 1. The members of the profession in any county of this State, who form themselves into a County Society, may become auxiliary to this Society; *Provided,* That all the regular practitioners in the County have been invited to unite in its organization; *and, provided,* that the Constitution and laws of such Society do not contravene those of the State Society.

SEC. 2. No one shall be admitted as a member of the County Society, unless he is either a graduate in medicine of some respectable Medical School, or has been a practitioner for at least five years; and who, moreover, is in good, moral and professional standing in the place where he resides, and is a regular practitioner.

SEC. 3. Any physician who shall secure a patent for a remedy, or instrument of surgery, or who shall hereafter give a certificate in favor of a patent remedy, or instrument, shall be deemed disqualified from becoming a member of a County Society.

SEC. 4. As soon as the County Society is organized, the Secretary thereof shall transmit to the Corresponding and Recording Secretary one copy of the Constitution and By-Laws, with the names of their officers and members. The Society shall be author-

ized to elect one delegate to the State Society for every five of its members.

SEC. 5. Every County Society shall enforce the observance by its members of the Code of Ethics adopted by the State Society, and they shall be authorized to censure or expel any member convicted of violating its provisions.

SEC. 6. A member of the County Society who is censured or expelled, shall have a right to appeal to the State Society.

SEC. 7. A member who is expelled shall be debarred from the rights of consultation, or the privileges of professional intercourse with any member of the State Society.

SEC. 8. The County Societies shall report annually to the State Society a list of their officers and members, any new rules which they may adopt, and such other matters as they may deem interesting.

SEC. 9. The County Society shall hold at least two meetings in each year.

SEC. 10. If any County Medical Society shall neglect to perform all such acts as may be required to be done by the laws of the State Society, or shall be guilty of conduct derogatory to the honor of the Medical profession, or shall oppose or neglect to comply with the laws of the State Society, such County Society shall, during such delinquency, have their privileges, as a portion of the State Society, suspended, and their delegates shall not be entitled to a seat in the State Society.

ARTICLE VII.—*Meeting of the Society.*

The Society shall hold an Annual Meeting. The time and place of meeting shall be determined, for each succeeding year, by a vote of the Society.

ARTICLE VIII.—*Of the Funds of the Society.*

SEC. 1. Funds for defraying the current expenses of the Society shall be raised by annual assessments on permanent members and County or District Societies, in connection with the State Society.

SEC. 2. Each permanent member, after being duly elected, and having signed the Constitution, shall pay the sum of five dollars as an admission fee, and be subject to the annual assessment of the Society, with the exception of the assessment for the year of his admission.

SEC. 3. Should a permanent member fail to pay the assessments two successive years, after having been notified by the Treasurer of his delinquencies, his name shall be stricken from the list of members. And he shall not be reïnstated to the rights and privileges of the Society unless by a two-thirds vote of all the members present and full compliance with all the requirements of Section 2 of the same article.

SEC. 4. Each County or District Society shall pay through the hands of its Delegate or Delegates, the annual assessment; and in case such County or District Society is not represented it shall be the duty of the Treasurer to forward an account of said assessment to the Secretary or Treasurer of the County or District Society for collection.

SEC. 5. Should a County or District Society, in connection with this Society, fail to pay the annual assessment two successive years, after having been notified by the Treasurer of its delinquencies, its right of representation in this Society shall be suspended until said assessments are paid.

ARTICLE IX.—*Code of Ethics.*

This Society adopts as a part of its regulations, that part of the Code of Ethics of the American Medical Association, which it has published by its order.

ARTICLE X.—*Provisions for Amendments.*

Every proposal for altering or amending this Constitution shall be made in writing; and if such alteration or amendment receives the unanimous vote of the members present, it shall be adopted; but, if objections be made, the alteration or amendment shall lie over until the next annual meeting, when if it receives the vote of two-thirds of the voters present, it shall be adopted.